

PUBLIC NOTICE

**LZB Manufacturing, Inc.** has applied to the Tennessee Air Pollution Control Division (TAPCD) for renewal of a major source operating permit subject to the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations (also frequently referred to as Title V regulations). A major source (Title V) operating permit is required by both the Federal Clean Air Act and the Tennessee Air Pollution Control Regulations.

**The applicant is LZB Manufacturing, Inc. with a site address of 500 Walnut Grove Road, Dayton, Tennessee 37321. They seek to obtain a renewal of their major source operating permit for operation of their upholstered wood furniture manufacturing operation. However, it should be noted that this facility has a current Title V operating permit.**

EPA has agreed to treat this draft Part 70 permit as a proposed Part 70 permit and to perform its 45-day review provided by the law concurrently with the public notice period. If any substantive comments are received, EPA's 45-day review period will cease to be performed concurrently with the public notice period. EPA's 45-day review period will start once the public notice period has been completed and EPA receives notification from the Tennessee Air Pollution Control Division that comments have been received and resolved. Whether EPA's 45-day review period is performed concurrently with the public comment period or after the public comment period has ended, the deadline for citizens' petitions to the EPA Administrator will be determined as if EPA's 45-day review period is performed after the public comment period has ended (*i.e.*, sequentially).

The status regarding EPA's 45-day review of this project and the deadline for submitting a citizen's petition can be found at the following website address:

<http://www.epa.gov/caa-permitting-proposed-title-v-permits>

A copy of the application materials used by the TAPCD and a copy of the draft / proposed permit are available for public inspection during normal business hours at the following locations:

Clyde W. Roddy Public Library  
371 First Avenue  
Dayton, TN 37321-1246

and

Tennessee Department of Environment and Conservation  
Division of Air Pollution Control  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 15<sup>th</sup> Floor  
Nashville, TN 37243

Also, if you require a copy of the draft / proposed permit it is available electronically by accessing the TDEC internet site located at:

<http://www.tn.gov/environment/topic/ppo-air>

Interested parties are invited to review these materials and comment. In addition, a public hearing may be requested at which written or oral presentations may be made. To be considered, written comments or requests for a public hearing must be made within thirty (30) days of the date of this notice and should be addressed to **Ms. Michelle Walker-Owenby, Director, Tennessee Division of Air Pollution Control, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 15<sup>th</sup> Floor, Nashville, Tennessee 37243**. Questions concerning this source may be directed to Mr. Abbas Yavari at the above address or by calling (615)-532-0554. A final determination will be made after weighing all relevant comments.

Individuals with disabilities who wish to participate in these proceedings (or to review these filings) should contact the Tennessee Department of Environment and Conservation to discuss any auxiliary aids or services needed to facilitate such participation. Such contact may be in person, by writing, telephone, or other means, and should be made no less than ten days prior to the end of the public comment period to allow time to provide such aid or services. Contact the Tennessee Department of Environment and Conservation ADA Coordinator, 2<sup>nd</sup> Floor, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, Nashville, Tennessee 37243, 1-(866)-253-5827. Hearing impaired callers may use the Tennessee Relay Service, 1-(800)-848-0298.

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(Do Not Publish Text Below The Dotted Line.)

For the Rhea County "*Herald-News*"-- publish once on or after Monday, September 19, 2016.

Air Pollution Control

Date: September 12, 2016

Assigned to – Abbas Yavari

**No alterations to the above are allowed:**

**LZB Manufacturing, Inc. must pay to place this advertisement in the newspaper.**

Air Pollution Control must be furnished with an affidavit from the newspaper stating that the ad was run and the date of the ad or one complete sheet from the newspaper showing this advertisement, the name of the newspaper and the date of publication. Mail to Abbas Yavari, Division of Air Pollution Control, 15<sup>th</sup> Floor, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, Nashville, Tennessee 37243, or send a PDF copy of this same information to [Air.Pollution.Control@tn.gov](mailto:Air.Pollution.Control@tn.gov).

## TITLE V PERMIT STATEMENT OF BASIS

Facility Name:	LZB Manufacturing, Inc.
City:	Dayton
County:	Rhea

Date Renewal Application Received:	August 4, 2014
Date additional Information received:	March 3 & 10, 2016, and June 3, 2016
Date Application Deemed Complete:	August 4, 2014

Emission Source Ref.No.:	72-0049
Permit No.:	569119

### INTRODUCTION

This narrative is being provided to assist the reader in understanding the content of the attached Title V operating permit. This Title V Permit Statement is written pursuant to Tennessee Air Pollution Control Rule 1200-03-09-.02(11)(f)1.(v). The primary purpose of the Title V operating permit is to consolidate and identify existing state and federal air requirements applicable to **LZB Manufacturing, Inc.** and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the Title V Operating Permit. It initially describes the facility receiving the permit, then the applicable requirements and their significance, and finally the compliance status with those applicable requirements. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public participation process will be described in an addendum to this narrative.

#### Acronyms

PSD - Prevention of Significant Deterioration  
NESHAP - National Emission Standards for Hazardous Air Pollutants  
NSPS - New Source Performance Standards  
MACT - Maximum Achievable Control Technology  
NSR - New Source Review

## I. Identification Information

### A. Sources Description

Upholstered Wood Furniture Manufacturing  
Source 02: Steam Generating - Natural Gas Boiler #2  
Source 03: Steam Generating - Zurn (Boiler #3)  
Source 04: Woodworking Operation #1  
Source 05: Woodworking Operation #2  
Source 06: Woodworking Operation #3  
Source 07: Woodworking Operation #4  
Source 08: Wood Furniture Finishing Operation #1  
Source 09: Adhesive Coating Operation  
Source 10: Electrodeposition Metal Coating Operation (NSPS)  
Source 17: Steam Generating - C.E. (Boiler #1)

### B. Facility Classification

#### 1. Attainment or Non-Attainment Area Location

Area is designated as an attainment area for all criteria pollutants.

#### 2. Company is located in a Class II area (this means that the facility is not located within a national park or national wilderness area; see 40 CFR 52.21(e) for complete definition).

### C. Regulatory Status

#### 1. PSD/NSR

This facility is not a major source for PSD purposes (for VOC emissions).

#### 2. Title V Major Source Status by Pollutant

Pollutant	Is the pollutant emitted?	If emitted, what is the facility's status?	
		Major Source Status	Non-Major Source Status
PM	YES	YES	
PM <sub>10</sub>			
SO <sub>2</sub>	YES		YES
VOC	YES	YES	
NO <sub>x</sub>	YES		YES
CO	YES		YES
Individual HAP	YES	YES	
Total HAPs	YES	YES	

#### 3. MACT Standards

This facility is a major source for HAPs. This facility is subject to a MACT Standard.

List MACT Rule(s) if applicable:

This wood furniture manufacturing facility (72-0049) is regulated by rule 40 CFR part 63 Subpart JJ - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Wood Furniture Manufacturing Operations which requires Maximum Achievable Control Technology (MACT) standards for wood furniture manufacturing operations. LZB Manufacturing, Inc. agreed to limit any single HAP to **9.9** tons per year and multiple HAPs to **24.9** tons per year to become an area source exempt from other provisions of the aforementioned Subpart JJ except for recordkeeping to demonstrate exemption.

4. Program Applicability

Are the following programs applicable to the facility?

PSD (**no**)

NESHAP (**yes**)

NSPS (**no**)

**II. Compliance Information**

A. Compliance Status

Is the facility currently in compliance with all applicable requirements? (**yes**)

Are there any applicable requirements that will become effective during the permit term? (**no**)

**III. Other Requirements**

A. Emissions Trading

The facility **is not** involved in an emission trading program.

B. Acid Rain Requirements

This facility **is not** subject to any requirements in Title IV of the Clean Air Act.

C. Prevention of Accidental Releases

(**Not-applicable**)

**IV. Public Participation Procedures**

Notification of the draft permit was emailed to the following environmental agencies:

1. Chattanooga EFO
2. Chattanooga-Hamilton County Local Program
4. The Eastern Band of Cherokee Indians
5. State of Georgia
6. State of North Carolina

V. Rule Analysis

LZB Manufacturing, Inc. is not subject to 40 CFR 64 Compliance Assurance Monitoring (CAM) for particulate matter (PM) emissions from the two wood-fired boiler's control units because the maximum heat input for the larger boiler's multiclone is **38.6** mmBTU/hr and its annual PM10 emissions are **60.9** tons/yr without controls, operating 8760 hrs/yr, and using AP 42, Tables 1.6-1 and 1.4-2.

LZB Manufacturing, Inc. is not subject to 40 CFR CAM for particulate matter emissions from the four(4) woodworking baghouses based on LZB's responses to EPA-provided diagnostic questions. LZB Manufacturing, Inc. indicates that the cost savings due to recovery of product waste was, approximately, \$843,375 per year 2008 calculation which vastly outweighs the cost of the installation of controls for the sawdust collection. LZB indicates that the controls would be installed anyway to provide operational safety measures; such as, enhanced machinery operation, reduced potential for explosion or fire, and reduces employee exposure to dust. Based on the foregoing information the woodworking baghouse operations are deemed inherent process equipment for the woodworking operations.

LZB Manufacturing, Inc. is not subject to 40 CFR CAM for sources 72-0049-08 (furniture finishing operation) and -09 (adhesive coating operation), PM sources due to spray booth operations. Actual PM emissions without controls for 8760 hour per year are only 18.6 and 31.1 tons per year total PM, respectively. These annual emission rates are provided by the company's record keeping logs.

The three boilers for sources 72-0049-02, -03, and -17 are pre-NSPS. Their construction dates are started in the original Title V and the renewal applications as 1982, 1985 and 1946, respectively. NSPS applies to boilers built after June 9, 1989.

This facility (72-0049) is regulated by 40 CFR Part 63 Subpart JJ and it requires MACT standards. In accordance with the MACT standard, the facility has become a MACT synthetic area source to be exempt from other provisions of Subpart JJ by meeting recordkeeping, rule usage limits, and associated criteria.

**VI. Permitting Activities Since Original Permit Issuance, Permit number 548410, dated July 1, 1999**

General permit conditions A12, B5 & B10, and also reporting requirements in Section E2 (b) have been revised since the last permit renewal.

Title V Operating permit renewal application was received on August 19, 2014. Additional information received on March 3 & 10, 2016.

Administrative Permit Amendment #2 was received on June 3, 2016 to change the facility's responsible official to Mr. Don Mather from Harold N. McCawley (will be combined with the current T.V. renewal.)

Administrative Permit Amendment #1 was issued on May 1, 2013 to change the facility contact person to Mr. Cody Buell.

Title V operating permit was renewed on March 18, 2010 (Permit number 555044).

Revised Renewal Application submitted on July 16, 2002 requested the following changes be made:

- 1) Permit fees payment for source 72-0049-08 be changed from Allowable to annual emission analysis reporting.
- 2) Company clarified that source 72-0049-17 was constructed in 1946 and was not subject to 49 CFR 60 Subpart Dc.
- 3) Source 72-0049-09 had its number of spray booths decreased from nine to seven reducing the allowable PM emissions from 10.4 to 8.6 lbs/hr.
- 4) The request to change baghouse pressure drop daily readings to weekly readings was denied.

**VII. Facility Total Annual Potential Emissions (ton/yr) Listed in Permit (569119)**

Source No.	Potential Emissions (tons per year)					
	PM	CO	VOC	SO <sub>2</sub>	NO <sub>x</sub>	HAPs*
00						9.9/24.9
02	4.4	0.4		4.4	8.2	
03	79.7	100.9	2.9	4.4	84.5	
04	17.1					
05	17.1					
06	17.1					
07	22.2					
08	33.9		258.0			
09	37.5					
10			18.1			
17	4.0	63.1	1.8	0.2	3.0	
<b>Total</b>	<b>233.0</b>	<b>164.4</b>	<b>280.8</b>	<b>9.0</b>	<b>95.7</b>	

\*HAPs emissions are included in PM and VOC emissions.

**VIII. Public Participation Important Dates:**

EPA concurrent review requested YES

Public Notice publication date 09/21/2016

Public Notice period completion date     

Public Notice publication comments     

EPA review period completion date     

EPA review comments

STATE OF TENNESSEE  
AIR POLLUTION CONTROL BOARD  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
NASHVILLE, TENNESSEE 37243



**OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act**

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations. The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: **DRAFT DRAFT**

Permit Number: **569119**

Date Expires: **DRAFT DRAFT**

Issued To:

Installation Address:

LZB Manufacturing, Inc.

500 Walnut Grove Rd  
Dayton

Installation Description: **Wood Furniture Manufacturing Facility: MACT Synthetic Area Source**

02: Steam Generating – Nat Gas (Boiler #2)  
03: Steam Generating - Zurn (Boiler #3)  
04: Woodworking Operation #1  
05: Woodworking Operation #2  
06: Woodworking Operation #3  
07: Woodworking Operation #4

08: Wood Furniture Finishing Operation #1  
09: Adhesive Coating Operation  
10: Electrodeposition Metal Coating  
Operation (NSPS)  
17: Steam Generating - C.E. (Boiler #1)

Emission Source Reference No.: **72-0049**

Primary SIC: 25

Renewal Application Due Date:

Information Relied Upon:

Title V Permit renewal application dated July 17, 2014  
Additional Information received on March 3 & 10, 2016  
Administrative Permit Amendments #1 was issued on May 1, 2013  
Administrative Permit Amendments #2 was received on June 3, 2016.

(Continued on the next page)

**DRAFT**

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

**POST AT INSTALLATION ADDRESS**

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**SECTION A**

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**GENERAL PERMIT CONDITIONS**

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A permit issued under the provisions of paragraph 1200-03-09-.02(11) is a permit issued pursuant to the requirements of Title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR, Part 70.

- A1. Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulation.

TAPCR 1200-03

- A2. Compliance requirement.** All terms and conditions in a permit issued pursuant to paragraph 1200-03-09-.02(11) including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act.

The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-03-09-.02(11)(e)2(i) and 1200-03-09-.02(11)(e)1(vi)(I)

- A3. Need to halt or reduce activity.** The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.

TAPCR 1200-03-09-.02(11)(e)1(vi)(II)

- A4. The permit.** The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

TAPCR 1200-03-09-.02(11)(e)1(vi)(III)

- A5. Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-03-09-.02(11)(e)1(vi)(IV)

- A6. Submittal of requested information.** The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by EPA, the permittee may mail the information directly to EPA. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-03-09-.02(11)(e)1(vi)(V)

- A7. Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

TAPCR 1200-03-09-.02(11)(e)1(v)

- A8. Fee payment.**

(a) The permittee shall pay an annual major source emission fee based upon the responsible official's choice of actual emissions or allowable emissions. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC Code shall apply to actual or allowable based emission fees. A major source annual emission fee will not be charged for emissions in excess of the cap (s) or for carbon monoxide.

(b) Major sources who have filed a timely, complete operating permit application in accordance with 1200-03-09-.02(11), shall pay allowable emission based fees until the beginning of the next annual accounting period following receipt of their major source operating permit. At that time, the permittee shall begin paying their annual emission fee based upon their choice of actual or allowable based fees, or mixed actual and allowable based fees as stated under SECTION E of this permit. Once permitted, altering the existing choice shall be accomplished by a written request of the major source, filed in the office of the Technical Secretary at least one hundred eighty days prior to the expiration or reissuance of the major source operating permit.

(c) Major sources must conform to the following requirements with respect to fee payments:

1. If a major source choosing an allowable based annual emission fee wishes to restructure its allowable emissions for the purposes of lowering its annual emission fees, a mutually agreed upon, more restrictive regulatory requirement may be established to minimize the allowable emissions and thus the annual emission fee. The more restrictive requirement must be specified on the permit, and must include the method used to determine compliance with the limitation. The documentation procedure to be followed by the major source must also be included to insure that the limit is not exceeded. Restructuring the allowable emissions is permissible only in the annual accounting periods of eligibility and only, if the written request for restructuring is filed with the Technical Secretary at least 120 days prior to the beginning of the annual accounting period of eligibility. These periods of eligibility occur upon expiration of the initial major source operating permit, renewal of an expired major source operating permit or reissuance of a major source operating permit.

2. Beginning with the annual accounting period beginning July 1, 2004 to June 30, 2005, major sources paying on allowable based emission fees will be billed by the Division no later than April 1 prior to the end of the accounting period. The major source annual emission fee is due July 1 following the end of the accounting period.

3. Beginning with the annual accounting period beginning July 1, 2004 to June 30, 2005, major sources choosing an actual based annual emission fee shall file an actual emissions analysis with the Technical Secretary which summarizes the actual emissions of all regulated pollutants at the air contaminant sources of their facility. Based upon the actual emissions analysis, the source shall calculate the fee due and submit the payment and the analysis each July 1st following the end of the annual accounting period.

4. Beginning with the annual accounting period beginning July 1, 2004 to June 30, 2005, major sources choosing a mixture of allowable and actual based emission fees shall file an actual emissions and allowable emissions analysis with the Technical Secretary which summarizes the actual and allowable emissions of all regulated pollutants at the air contaminant sources of their facility. Based upon the analysis, the source shall calculate the fee due and submit the payment and the analysis each July 1st following the end of the annual accounting period.

The mixed based fee shall be calculated utilizing the 4,000 ton cap specified in subparagraph 1200-03-26-.02(2)(i). In determining the tonnages to be applied toward the regulated pollutant 4,000 ton cap in a mixed based fee, the source shall first calculate the actual emission based fees for a regulated pollutant and apply that tonnage toward the regulated pollutant's cap. The remaining tonnage available in the 4,000 ton category of a regulated pollutant shall be subject to allowable emission based fee calculations for the sources that were not included in the actual emission based fee calculations. Once the 4,000 ton cap has been reached for a regulated pollutant, no additional fee shall be required.

5. Major sources choosing to pay their major source annual emission fee based on actual based emissions or a mixture of allowable and actual based emissions may request an extension of time to file their emissions analysis with the Technical Secretary. The extension may be granted by the Technical Secretary up to ninety (90) days. The request for extension must be postmarked no later than July 1 or the request for extension shall be denied. The request for extension to file must state the reason and give an adequate explanation.

An estimated annual emission fee payment of no less than eighty percent (80%) of the fee due July 1 must accompany the request for extension to avoid penalties and interest on the underpayment of the annual emission fee. A remaining balance due must accompany the emission analysis. If there has been an overpayment, a refund may be requested in writing to the Division or be applied as a credit toward next year's major source annual emission fee. The request for extension of time is not available to major sources choosing to pay their major source annual emission fee based on allowable emissions.

6. Newly constructed major sources or minor existing sources modifying their operations such that they become a major source in the midst of the standard July 1st to June 30th annual accounting period, shall pay allowable based annual emission fees for the fractional remainder of the annual accounting period commencing upon their start-up. At the beginning of the next annual accounting period, the "responsible official" of the source may choose to pay annual emission fees based on actual or allowable emissions or a mixture of the two as provided for in this rule 1200-03-26-.02.

(d) Where more than one (1) allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted. Major sources subject to the provisions of paragraph 1200-03-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.

1. Sources that are subject to federally promulgated hazardous air pollutant standards that can be imposed under Chapter 1200-03-11 or Chapter 1200-03-31 will place such regulated emissions in the specific hazardous air pollutant under regulation. If the pollutant is also in the family of volatile organic compounds or the family of particulates, the pollutant shall not be placed in that respective family category.
2. A miscellaneous category of hazardous air pollutants shall be used for hazardous air pollutants listed at part 1200-03-26-.02(2)(i)12 that do not have an allowable emission standard. A pollutant placed in this category shall not be subject to being placed in any other category such as volatile organic compounds or particulates.
3. Each individual hazardous air pollutant and the miscellaneous category of hazardous air pollutants is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).
4. Major sources that wish to pay annual emission fees for PM<sub>10</sub> on an allowable emission basis may do so if they have a specific PM<sub>10</sub> allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM<sub>10</sub> emission basis, it may do so if the PM<sub>10</sub> actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM<sub>10</sub> emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM<sub>10</sub> emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) shall also apply to PM<sub>10</sub> emissions.

TAPCR 1200-03-26-.02 (3) and (9) and 1200-03-09-.02(11)(e)1(vii)

A9. **Permit revision not required.** A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.

TAPCR 1200-03-09-.02(11)(e)1(viii)

A10. **Inspection and entry.** Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or his authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

- (a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (d) As authorized by the Clean Air Act and Chapter 1200-03-10 of TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.
- (e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, Division 1200-03 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.

TAPCR 1200-03-09-.02(11)(e)3.(ii)

A11. **Permit shield.**

(a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:

1. Such applicable requirements are included and are specifically identified in the permit; or
  2. The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.
- (b) Nothing in this permit shall alter or affect the following:
1. The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. §68-201-109 (emergency orders) including the authority of the Governor under the section;

2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or
4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.

(c) Permit shield is granted to the permittee.

**A12. Permit renewal and expiration.**

a) An application for permit renewal must be submitted at least 180 days, but no more than 270 days, prior to the expiration of this permit. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted.

(b) Provided that the permittee submits a timely and complete application for permit renewal the source will not be considered in violation of paragraph 1200-03-09-.02(11) until the Technical Secretary takes final action on the permit application, except as otherwise noted in paragraph 1200-03-09-.02(11).

(c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)3 and 2, 1200-03-09-.02(11)(d)1(i)(III), and 1200-03-09-.02(11)(a)2

**A13. Reopening for cause.**

(a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:

1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to 1200-03-09-.02(11)(a)2.
2. Additional requirements become applicable to an affected source under the acid rain program.
3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.

(c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.

(d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90 day time period.
2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.
3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13 (b) and Condition A13 (c).

4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

TAPCR 1200-03-09-.02(11)(f)6 and 7.

**A14. Permit transference.** An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:

- (a) Transfer of ownership permit application is filed consistent with the provisions of 1200-03-09-.03(6), and
- (b) written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)4(i)(IV) and 1200-03-9-.03(6)

**A15. Air pollution alert.** When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR 1200-03-09-.03(1) and TAPCR 1200-03-15-.03.

**A16. Construction permit required.** Except as exempted in TAPCR 1200-03-09-.04, or excluded in subparagraph TAPCR 1200-03-02-.01(1)(aa) or subparagraph TAPCR 1200-03-02-.01(1)(cc), this facility shall not begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

TAPCR 1200-03-09-.01(1)(a)

**A17. Notification of changes.** The permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.

- (a) change in air pollution control equipment
- (b) change in stack height or diameter
- (c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-03-09-.02(7)

**A18. Schedule of compliance.** The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis. If the permittee is not in compliance, the permittee must submit a schedule for coming into compliance, which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

TAPCR 1200-03-09-.02(11)(d)3 and 40 CFR Part 70.5(c)

**A19. Title VI.**

(a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.
2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.
3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

(b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR, Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

(c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

- A20. **112 (r).** The permittee shall comply with the requirement to submit to the Administrator or designated State Agency a risk management plan, including a registration that reflects all covered processes, by June 21, 1999, if the permittee's facility is required pursuant to 40 CFR 68 to submit such a plan.

TAPCR 1200-03-32-.03(3)

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## SECTION B

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### GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

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- B1. **Recordkeeping.** Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than every six months.

(a) Where applicable, records of required monitoring information include the following:

1. The date, place as defined in the permit, and time of sampling or measurements;
2. The date(s) analyses were performed;
3. The company or entity that performed the analysis;
4. The analytical techniques or methods used;
5. The results of such analyses; and
6. The operating conditions as existing at the time of sampling or measurement.

(b) Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.

TAPCR 1200-03-09-.02(11)(e)1(iii)

- B2. **Retention of monitoring data.** The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)(II)II

- B3. **Reporting.** Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reporting periods will be dated from the end of the first complete calendar quarter following issuance of this permit unless otherwise noted. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.

TAPCR 1200-03-09-.02(11)(e)1(iii)

- B4. **Certification.** Except for reports required under "State Only" requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

TAPCR 1200-03-09-.02(11)(d)4

**B5. Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

- (a) The identification of each term or condition of the permit that is the basis of the certification;
- (b) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
- (c) The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in B5(b) above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an \*excursion or \*\*exceedance as defined below occurred; and
- (d) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

\* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

\*\* "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667

**B6. Submission of compliance certification.** The compliance certification shall be submitted to:

The Tennessee Department of Environment and Conservation Environmental Field Office specified in Section E of this permit	and	US EPA Region IV Air and EPCRA Enforcement Branch 61 Forsyth Street, SW Atlanta, Georgia 30303
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TAPCR 1200-03-09-.02(11)(e)3(v)(IV)

**B7. Emergency provisions.** An emergency constitutes an affirmative defense to an enforcement action brought against this source for noncompliance with a technology based emission limitation due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(a) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. "Probable" must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles.
2. The permitted source was at the time being properly operated. In determining whether or not a source was being properly operated, the Technical Secretary shall examine the source's written standard operating procedures which were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source's standard operating procedures will be the test of adequate preventative maintenance, careless operation, improper operation or operator error to the extent that such adherence would prevent noncompliance. The source's failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense.

3. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

4. The permittee submitted notice of the emergency to the Technical Secretary according to the notification criteria for malfunctions in rule 1200-03-20-.03. For the purposes of this condition, "emergency" shall be substituted for "malfunction(s)" in rule 1200-03-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding the permittee seeking to establish the occurrence of an emergency has the burden of proof.

(c) The provisions of this condition are in addition to any emergency, malfunction or upset requirement contained in Division 1200-03 or other applicable requirement.

TAPCR 1200-03-09-.02(11)(e)7

**B8. Excess emissions reporting.**

(a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in Division 1200-03 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.

(b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office and to the State Civil Defense.

(c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in Division 1200-03 or any permit issued thereto must be kept at the plant. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. This log must record at least the following:

1. Stack or emission point involved
2. Time malfunction, startup, or shutdown began and/or when first noticed
3. Type of malfunction and/or reason for shutdown
4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation
5. The company employee making entry on the log must sign, date, and indicate the time of each log entry. The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-03-20-.03 and .04

**B9. Malfunctions, startups and shutdowns - reasonable measures required.** The permittee must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. This provision does not apply to standards found in 40 CFR, Parts 60 (Standards of performance for new stationary sources), 61 (National emission standards for hazardous air pollutants) and 63 (National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-03-20-.02

**B10. Reserved**

TAPCR 1200-03-20-.04(2)

**B11. Report required upon the issuance of a notice of violation for excess emissions.** The permittee must submit within twenty (20) days after receipt of the notice of violation, the data shown below to assist the Technical Secretary in deciding whether to excuse or validate the violation. If this data has previously been available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same twenty (20) day time period. The minimum data requirements are:

- (a) The identity of the stack and/or other emission point where the excess emission(s) occurred;
- (b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
- (c) The time and duration of the emissions;
- (d) The nature and cause of such emissions;
- (e) For malfunctions, the steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;
- (f) The steps taken to limit the excess emissions during the occurrence reported, and
- (g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.

Failure to submit the required report within the twenty (20) day period specified shall preclude the admissibility of the data for consideration of excusal for malfunctions.

TAPCR 1200-03-20-.06(2), (3) and (4)

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## SECTION C

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### PERMIT CHANGES

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**C1. Operational flexibility changes.** The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:

- (a) The change cannot be subject to a requirement of Title IV of the Federal Act or Chapter 1200-03-30.
- (b) The change cannot be a modification under any provision of Title I of the federal Act or Division 1200-03.
- (c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.
- (d) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of levels that are specified in Rule 1200-03-09-.04.
- (e) Each change shall be described in the notice including the date, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change.
- (f) The change shall not qualify for a permit shield under the provisions of part 1200-03-09-.02(11)(e)6.
- (g) The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

TAPCR 1200-03-09-.02(11)(a)4 (ii)

**C2. Section 502(b)(10) changes.**

(a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or Division 1200-03 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. The Technical Secretary may waive the 7 day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of

TAPCR 1200-03-09-.02(11)(e)7 and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.

- (b) The written notification must be signed by the facility Title V Responsible Official and include the following:
1. a brief description of the change within the permitted facility;
  2. specifies the date on which the change will occur;
  3. declares and quantifies where possible any change in emissions;
  4. declares any permit term or condition that is no longer applicable as a result of the change; and
  5. declares the requested change is not a Title I modification and will not exceed allowable emissions under the permit.

(c) The permit shield provisions of TAPCR 1200-03-09-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-03-09-.02(11)(a)4 (i)

**C3. Administrative amendment.**

(a) Administrative permit amendments to this permit shall be in accordance with 1200-03-09-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

(b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR 1200-03-09-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the relevant requirements of TAPCR 1200-03-09-0.02(11)(e), TAPCR 1200-03-09-.02(11)(f) and TAPCR 1200-03-09-.02(11)(g) for significant permit modifications.

(c) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)4

**C4. Minor permit modifications.**

(a) The permittee may submit an application for a minor permit modification in accordance with TAPCR 1200-03-09-.02(11)(f)5(ii).

(b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.

(c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

(d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-03-09-.02(11)(f)5(ii)

**C5. Significant permit modifications.**

(a) The permittee may submit an application for a significant modification in accordance with TAPCR 1200-03-09-.02(11)(f)5(iv).

(b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)5(iv)

**C6. New construction or modifications.**

Future construction at this source that is subject to the provisions of TAPCR 1200-03-09-.01 shall be governed by the following:

(a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.

(b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR 1200-03-09-.02(11)(f)4 or the significant modification route of TAPCR 1200-03-09-.02(11)(f)5(iv).

(c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR 1200-03-09-.02(11)(f)5(ii) or group processing of minor modifications under the provisions of TAPCR 1200-03-09-.02(11)(f)5(iii) as applicable to the magnitude of their construction.

TAPCR 1200-03-09-.02(11)(d) 1(i)(V)

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## SECTION D

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### GENERAL APPLICABLE REQUIREMENTS

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- D1. Visible emissions.** With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-03-05 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period; provided, however, that for fuel burning installations with fuel burning equipment of input capacity greater than 600 million btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of twenty (20) percent (6-minute average) except for one six minute period per one (1) hour of not more than forty (40) percent opacity. Sources constructed or modified after July 7, 1992 shall utilize 6-minute averaging.

Consistent with the requirements of TAPCR Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR 1200-03-05 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or his representative upon his request.

TAPCR 1200-03-05-.01(1), TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.02(1)

- D2. General provisions and applicability for non-process gaseous emissions.** Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

TAPCR 1200-03-06-.03(2)

- D3. Non-process emission standards.** The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR 1200-03-06.

- D4. General provisions and applicability for process gaseous emissions.** Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

TAPCR 1200-03-07-.07(2)

- D5. Particulate emissions from process emission sources.** The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR 1200-03-07.

- D6. Sulfur dioxide emission standards.** The permittee shall not cause, suffer, allow, or permit Sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR 1200-03-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

- D7. Fugitive Dust.**

(a) The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;

2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;
3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

(b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-03-20.

TAPCR 1200-03-08

- D8. **Open burning.** The permittee shall comply with the TAPCR 1200-03-04-.04 for all open burning activities at the facility.

TAPCR 1200-03-04

- D9. **Asbestos.** Where applicable, the permittee shall comply with the requirements of 1200-03-11-.02(d) when conducting any renovation or demolition activities at the facility.

TAPCR 1200-03-11-.02(d) and 40 CFR, Part 61

- D10. **Annual certification of compliance.** The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are not subject to source-specific applicable requirements contained in State of Tennessee and U.S. EPA regulations. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii) and 1200-03-10-.04(2)(b)1 and compliance requirements of TAPCR 1200-03-09-.02(11)(e)3.(i). The permittee shall submit compliance certification for these conditions annually.

**SECTION E**

**SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS**

**72-0049**      **Facility Description:** La-Z-Boy Tennessee is a wood furniture manufacturing facility that uses Woodworking, Finishing and Electrodeposition Metal Coating Operations, and Steam Generating Boilers to produce finished upholstered wood furniture products.

**Conditions E1 through 0** apply to all sources in Section E of this permit unless otherwise noted.

**E1.    Fee payment: mixed (actual and allowable) emissions basis.**

**FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 72-0049**

<b>REGULATED POLLUTANTS</b>	<b>ALLOWABLE EMISSIONS (tons per AAP)</b>	<b>ACTUAL EMISSIONS (tons per AAP)</b>	<b>COMMENTS</b>
<b>PARTICULATE MATTER (PM)</b>	<b>233.0</b>	<b>N/A</b>	<b>Includes all fee emissions.</b>
<b>PM<sub>10</sub></b>	<b>N/A</b>	<b>N/A</b>	
<b>SO<sub>2</sub></b>	<b>8.9</b>	<b>N/A</b>	<b>Includes all fee emissions.</b>
<b>VOC (Sources 72-0049-03, -10 &amp; -17)</b>	<b>22.8</b>	<b>N/A</b>	<b>Includes partial fee emissions.</b>
<b>VOC (Source 72-0049-08)</b>	<b>N/A</b>	<b>AEAR</b>	<b>Includes partial fee emissions</b>
<b>NO<sub>x</sub></b>	<b>95.7</b>	<b>N/A</b>	<b>Maximum actual emissions.</b>
<b>CATEGORY OF MISCELLANEOUS HAZARDOUS AIR POLLUTANTS (HAP WITHOUT A STANDARD)*</b>			
<b>VOC FAMILY GROUP</b>	<b>N/A</b>	<b>AEAR</b>	<b>Fee emissions are included in VOC above.</b>
<b>NON-VOC GASEOUS GROUP</b>	<b>N/A</b>	<b>AEAR</b>	<b>Fee emissions are not included above.</b>
<b>PM FAMILY GROUP</b>	<b>N/A</b>	<b>AEAR</b>	<b>Fee emissions are included in PM above.</b>
<b>CATEGORY OF SPECIFIC HAZARDOUS AIR POLLUTANTS (HAP WITH A STANDARD)**</b>			
<b>VOC FAMILY GROUP</b>	<b>N/A</b>	<b>AEAR</b>	<b>MACT (40 CFR Part 63 Subpart JJ). Fee emissions are included in VOC above.</b>
<b>NON-VOC GASEOUS GROUP</b>	<b>N/A</b>	<b>N/A</b>	
<b>PM FAMILY GROUP</b>	<b>N/A</b>	<b>N/A</b>	
<b>CATEGORY OF NSPS POLLUTANTS NOT LISTED ABOVE***</b>			
<b>Each NSPS Pollutant Not Listed Above</b>	<b>N/A</b>	<b>N/A</b>	

**NOTES**

**AAP**    The **Annual Accounting Period (AAP)** is a twelve (12) consecutive month period that begins each July 1st and ends June 30th of the following year. The present Annual Accounting Period began July 1, 2016, and ends June 30, 2017. The next Annual Accounting Period begins July 1, 2017, and ends June 30, 2018.

**N/A**    N/A indicates that no emissions are specified for fee computation.

**AEAR**    **AEAR** indicates that an Actual Emissions Analysis is Required to determine the actual emissions of:

- (1)    each regulated pollutant (Particulate matter, SO<sub>2</sub>, VOC, NO<sub>x</sub> and so forth. See TAPCR 1200-03-26-.02(2)(i) for the definition of a regulated pollutant.),
- (2)    each pollutant group (VOC Family, Non-VOC Gaseous, and Particulate Family), and
- (3)    the Miscellaneous HAP Category under consideration during the Annual Accounting Period.

- \* **Category Of Miscellaneous HAP (HAP Without A Standard):** This category is made-up of hazardous air pollutants that do not have a federal or state standard. Each HAP is classified into one of three groups, the **VOC Family group**, the **Non-VOC Gaseous group**, or the **Particulate (PM) Family group**. For fee computation, the **Miscellaneous HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).
- \*\* **Category Of Specific HAP (HAP With A Standard):** This category is made-up of hazardous air pollutants (HAP) that are subject to Federally promulgated Hazardous Air Pollutant Standards that can be imposed under Chapter 1200-03-11 or Chapter 1200-03-31. Each individual hazardous air pollutant is classified into one of three groups, the **VOC Family group**, the **Non-VOC Gaseous group**, or the **Particulate (PM) Family group**. For fee computation, each individual hazardous air pollutant of the **Specific HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(I).
- \*\*\* **Category Of NSPS Pollutants Not Listed Above:** This category is made-up of each New Source Performance Standard (NSPS) pollutant whose emissions are not included in the **PM, SO<sub>2</sub>, VOC or NO<sub>x</sub>** emissions from each source in this permit. For fee computation, each **NSPS pollutant not listed above** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

**END NOTES**

- The permittee shall:**
- (1) Pay major source annual **mixture (allowable and actual) based emission fees**, as requested by the responsible official, **for each annual accounting period (AAP) by July 1 of each year.**
  - (2) Prepare an **actual emissions and allowable emissions analysis** in accordance with the above **Fee Emissions Summary Table for each AAP (July 1 of each year through June 30 of the following year).** The **actual emissions and allowable emissions analysis** shall include:
    - (a) the completed **Fee Emissions Summary Table,**
    - (b) each **AEAR** required by the above **Fee Emissions Summary Table, and**
    - (c) the records, or a summary of the records, required by **Conditions 0, E11-1, E12-1, and E13-1** of this permit. These records shall be used to complete the **AEARs** required by the above **Fee Emissions Summary Table.**
  - (3) Submit the **actual emissions and allowable emissions analysis** at the time the fees are paid in full.
  - (4) Calculate the fee due based upon the **actual emissions and allowable emissions analysis**, and submit the payment on **July 1** following the end of the **annual accounting period.** If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within fifteen (15) days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8). Major sources may request an extension of time to file their emissions analysis with the Technical Secretary as specified in **Condition A8(c)5** of this permit. Emissions for regulated pollutants shall not be double counted as specified in **Condition A8(d)** of this permit.

**Payment of the fee due and the actual emissions and allowable emissions analysis shall be submitted to The Technical Secretary at these addresses.**

<b>Payment for Fee to</b>		<b>Actual Emissions Analysis to</b>
The Tennessee Department of Environment and Conservation Division of Fiscal Services Consolidated Fee Section – APC William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 10 <sup>th</sup> Floor Nashville, Tennessee 37243	and	The Tennessee Department of Environment and Conservation Division of Air Pollution Control East Tennessee Permit Program William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 15 <sup>th</sup> Floor Nashville, Tennessee 37243

**E2. Reporting and recordkeeping requirements.**

(a) **Semiannual reports** In order to maintain the same reporting schedule as established in the initial Title V permit, the first report for this renewal shall cover the following permits and time periods:

Permit	Report period begins	Report period ends
555044 (existing)	April 1, 2016	Day before issuance date of permit 569119
569119 (renewal)	Issuance date of permit 569119	September 30, 2016

The report covering the full 6 month period shall be submitted within 60 days after September 30, 2016. Subsequent reports revert fully to permit #569119 and shall be submitted within 60 days after the end of each 6-month period following the first report. Semiannual periods continue to cover the periods January through June and July through December of every year.

These semiannual reports shall include:

- (1) Reports of any monitoring and recordkeeping required by **Conditions 0, E4-1, E4-4, E5-1, E6-3, E7-1, E7-2, E8-1, E8-2, E9-1, E9-2, E10-1, E10-2, E11-1, E11-3, E12-1, E12-2, and E13-1** of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (2) The visible emission evaluation readings from **Conditions E3-1, E4-3, and E5-3** of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (3) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**.

**These reports must be certified by a responsible official consistent with Condition B4. of this permit and shall be submitted to the Technical Secretary at the address in Condition E2.(b) of this permit.**

TAPCR 1200-03-09-.02(11)(e)1.(iii)

(b) **Annual compliance certification** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

- (1) The identification of each term or condition of the permit that is the basis of the certification;
- (2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
- (3) The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in E2(b)2 above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an \*excursion or \*\*exceedance as defined below occurred; and
- (4) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

\* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

\*\* "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or

less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

The current annual certification shall cover the 12-month period from **October 1, 2015 to September 30, 2016** and shall be submitted within **60** days after the 12-month period ending **September 30, 2016**. Subsequent certifications shall be submitted within **60** days after the end of each 12-month period following the current certification.

**These certifications shall be submitted to:**

<p>Chattanooga Environmental Field Office                  Division of Air Pollution Control                  ATTN: APC Manager                  1301 Riverfront Parkway   Suite #206                  Chattanooga, TN 37402</p>	<p>and</p>	<p>Air and EPCRA Enforcement Branch                  US EPA Region IV                  61 Forsyth Street, SW                  Atlanta, Georgia 30303</p>
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Electronic copy to: [APC.ChattEFO@tn.gov](mailto:APC.ChattEFO@tn.gov)

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol.62, No.204, October 22, 1997, pages 54946 and 54947

The electronic report submittal must include a scanned copy of the signature of the responsible official certifying the report. A color copy of the document with blue ink signatures is preferred, but a black-and-white submittal is acceptable. The Air Pollution Control e-mail address will send an automatic reply to verify that the electronic submittal was received. If an automatic reply is not received, you may wish to re-send or confirm that the e-mail submittal was received by contacting the Division of Air Pollution Control at (931) 432-4015.

**Note that each report must be submitted under separate cover and each report must be accompanied by a separate compliance certification statement.**

(c) **Retention of Records.** All records required by any condition in Section E of this permit must be retained for a period of not less than five (5) years. Additionally, these records shall be kept available for inspection by the Technical Secretary or a Division representative.

TAPCR 1200-03-09-.02(11)(e)1.(iii)(II)II

**E3. General Requirements.**

**E3-1.** Visible emissions from sources 2 & 3 (not addressed in the source specific sections) shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average). TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

**Compliance Method:** Compliance with this opacity limitation shall be certified through utilization of the Division’s Opacity Matrix, amended September 11, 2013, using EPA Method 9 that is enclosed as Attachment 1.

**If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.**

**E3-2.** The source(s) controlled by the air pollution control device(s) shall not operate unless the control device(s) is in operation. In the event a malfunction/failure of a control device(s) occurs, the operation of the process(es) controlled by the control device(s) shall be regulated by the provisions of Chapter 1200-03-20 of the Tennessee Air Pollution Control Regulations.

**Compliance Method:** Following the requirements as identified in TAPCR 1200-03-20.

**E3-3.** Routine maintenance as required to comply with the specified emission limits shall be performed on the air pollution control devices. Monthly logs of maintenance and/or repair for each air pollution control device shall be kept. This includes, but is not limited to, baghouses, electrostatic precipitators, scrubbers, cyclones, and other air pollution control devices. The logs shall denote what maintenance and what repair was done, when it was done, by whom, and when problems were rectified

denoting date accomplished. Use of computer-generated logs is also acceptable. Each maintenance/repair log must be made available upon request by the Technical Secretary or his representative. Such logs must be maintained for 5 years. Records from these logs are not required to be submitted semiannually unless required in Condition E2(a)(1). TAPCR 1200-03-10-.02(2)(a)

**Compliance Method:** Included with the requirement.

- E3-4.** Upon the malfunction/failure of any emission control device(s) serving this facility, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-03-20 of the Tennessee Air Pollution Control Regulations.

**Compliance Method:** Following the requirements as identified in TAPCR 1200-03-20.

- E3-5.** Logs and records specified in this permit shall be made available upon request by the Technical Secretary or his representative and shall be retained at the source location for a period of not less than five years unless otherwise noted. Logs and records contained in this permit may be based on a recommended format. Any logs that have an alternative format may be utilized provided such logs contain the same information that is required. Computer-generated logs are also acceptable. Logs and records are not required to be submitted semiannually unless specified in Condition E2(a)(1). TAPCR 1200-03-10

**Compliance Method:** Included with the requirement.

- E3-6. Retention of Records** All records required by any condition in Section E of this permit must be retained for a period of not less than five (5) years. Additionally, these records shall be kept available for inspection by the Technical Secretary or his representative. All yearly data, including all required calculations, must be entered in the log(s) no later than thirty (30) days from the end of the year for which the data is required. All monthly data, including all required calculations, must be entered in the log(s) no later than thirty (30) days from the end of the month for which the data is required. All daily data, including all required calculations, must be entered in the log(s) no later than seven (7) days from the end of the day for which the data is required.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**Compliance Method:** Included with the requirement.

- E3-7.** Recordkeeping: Data Entry Requirements

- a) For monthly recordkeeping, all data, including the results of all calculations, must be entered into the log no later than thirty (30) days from the end of the month for which the data is required.
- b) For weekly recordkeeping, all data, including the results of all calculations, must be entered into the log no later than seven (7) days from the end of the week for which the data is required.
- c) For daily recordkeeping, all data, including the results of all calculations, must be entered into the log no later than seven (7) days from the end of the day for which the data is required.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**Compliance Method:** Maintain the recordkeeping schedule as required.

- E3-8.** The permittee is not required to file an accidental release plan pursuant to Section 112(r) of the Clean Air Act and 1200-03-32 of TAPCR.

**Compliance Method:** Following the requirement as identified in TAPCR 1200-03-32.

- E3-9.** Pursuant to 1200-03-10-.04(2)(a)2. of TAPCR, gauges, indicators, and similar devices used to measure and conduct parametric monitoring of control equipment must maintain an operational availability of at least 95%. Logs and records to substantiate such operational availability must be kept and such records shall be made available to the Technical Secretary or his representative upon request.

**Compliance Method:** Included with the requirement.

**E3-10. Identification of Responsible Official, Technical Contact**

a) The application that was utilized in the preparation of this permit is dated July 17, 2014, and signed by Harold N. McCawley, previous Responsible Official of the permitted facility. The current Responsible Official is Don Mather. If this person terminates employment or is assigned different duties and is no longer a Responsible Official for this facility as defined in part 1200-03-09-.02(11)(b)21 of the Tennessee Air Pollution Control Regulations, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within thirty (30) days of the change. The notification shall include the name and title of the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Responsible Official that were used in the establishment of the permit terms and conditions will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements, and/or covenants.

b) The application that was utilized in the preparation of this permit is dated July 17, 2014, and identifies Cody Buell as the Principal Technical Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Principal Technical Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within thirty (30) days of the change. The notification shall include the name and title of the new Principal Technical Contact and certification of truth and accuracy.

c) The application that was utilized in the preparation of this permit is dated July 17, 2014, and identifies Kim Long as the Billing Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Billing Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within thirty (30) days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

TAPCR 1200-03-09-.02(6)

**E3-11.** The permittee listed various insignificant and exempt activities in their Title V Application per Rule 1200-03-09-.04(5). Additional insignificant activities may be added and operated at any time with the provision that a written notification shall be submitted to the Technical Secretary including an updated APC 2 application form along with a truth, accuracy, and completeness statement signed by a responsible official. TAPCR 1200-03-09-.02(6)

**Compliance Method:** Included with the requirement.

**E3-12. VOC/HAP content log.** Determinations of the as-supplied volatile organic compounds (VOC) and hazardous air pollutants (HAP) including volatile hazardous air pollutants (VHAP) contents by weight of all VOC and HAP containing materials listed in the approved application for use by sources 72-0049-08 and -10 and any new material for those sources shall be completed once within 90 days from the initial use of the material as follows:

- (a) **All Coatings, Inks, Adhesives, Thinners, Cleaners, Solvents and Ancillary Materials other than publication rotogravure materials** - by using the procedures and analyses of EPA Method 24 (one-hour bake) (TAPCR 1200-03-16-.01(5)(g)(24) and 1200-03-18-.81(2)(a)) to determine volatile matter content, water content, density, volume solids and weight solids. Data may be obtained by laboratory analysis, from manufacturer or vendor certification that the data was determined by EPA Method 24, or from formulation data provided by the manufacturer.
- (b) **Publication Rotogravure Coatings, Inks, Adhesives, Thinners, Cleaners, Solvents and Ancillary Materials** - by using the procedures and analyses of EPA Method 24A (TAPCR 1200-03-16-.01(5)(g)(24)(i) and 1200-03-18-.81(2)(b)) to determine volatile matter content and density. Data may be obtained by laboratory analysis, from manufacturer or vendor certification that the data was determined by EPA Method 24A, or from formulation data provided by the manufacturer.
- (c) **All Coatings Inks, Adhesives, Thinners, Cleaners, Solvents and Ancillary Materials** - by using the procedures and analyses of EPA Method 311 to determine the organic HAP weight fraction. Data may be obtained by laboratory analysis or from Certified Product Data Sheets (CPDS) provided by the manufacturer.

The results of these determinations shall be compiled in the following tabular format or an alternative format which readily provides the same required information. This log, the certified product data sheets and the material safety data sheets along with a record of invoices for all VOC and HAP containing materials shall be maintained and kept available for inspection by

the Technical Secretary or a Division representative. These records must be retained for a period of not less than five (5) years. If new materials are used, or if material formulation is changed, the log shall be updated within 90 days from the initial date of usage of the new or altered material.

VOC/HAP CONTENT LOG FOR SOURCES 72-0049-08 and 72-0049-10

MATERIAL NAME	MATERIAL DENSITY (pounds MATERIAL per gallon)	VOC CONTENT (pounds VOC per gallon)	SOLIDS CONTENT (pounds SOLIDS per gallon)	HAP <sub>i</sub> CONTENT (pounds HAP <sub>i</sub> per gallon)	HAP <sub>p</sub> CONTENT (pounds HAP <sub>p</sub> per gallon)	TOTAL HAP CONTENT (pounds HAP <sub>i</sub> thru HAP <sub>p</sub> per gallon)
Material <sub>i</sub>						

Note: i = 1, 2, 3,..... n = the number of different materials, and p = 1, 2, 3,..... n = the number of different hazardous air pollutants. Use columns as required for the number of different hazardous air pollutants.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E3-13. Synthetic Area Source.** This wood furniture manufacturing facility (72-0049) is regulated by rule 40 CFR Part 63 Subpart JJ which requires Maximum Achievable Control Technology (MACT) standards for wood furniture manufacturing operations. In accordance with 40 CFR Part 63 Subpart JJ, a facility that otherwise would be a major source can, at the option of the owner or operator, become an area source exempt from other provisions of the aforementioned subpart JJ by meeting rule usage limits and associated criteria. The rule usage limits ensure that the facility’s potential and actual emissions of HAP are below the major source thresholds of 10 tons of a single HAP or 25 tons of a combination of HAP. In accordance with 40 CFR Part 63 Subpart JJ, a Synthetic Area Source must meet and maintain the following:

- (a) **Facility Usage Limits.** Hazardous air pollutants (HAP) emissions from this facility (72-0049) shall not exceed 9.9 tons per year per individual HAP and 24.9 tons per year for all HAP combined. This emission limitation is established pursuant to Rule 1200-03-07-.01(5) of the Tennessee Air Pollution Control Regulations and the information contained in the agreement letter dated February 27, 1997 from the permittee. The permittee has requested this limit in order to avoid being subject to 40 CFR Part 63 Subpart JJ.

If this area source exceeds the facility usage limits it becomes a major source and must comply thereafter with all applicable provisions and standards of rule 40 CFR Part 63 Subpart JJ starting one year after becoming a major source.

**Compliance Method:** Compliance with this requirement shall be certified through recordkeeping of HAP emissions. Monthly and 12 consecutive month periods of HAP emissions from this facility (72-0049) shall be calculated and maintained by keeping the following tabular format or an alternative format which readily provides the same required information. These logs shall be used to assure compliance with this condition, in the actual emissions analysis required by Condition E1 of this permit, and in the reporting requirements of Condition E2 of this permit.

MONTHLY HAP EMISSIONS LOG FOR SOURCES 72-0049-02, 03,-08, 10, and 17 MONTH:

Source Number	HAP <sub>i</sub> EMISSIONS (tons HAP <sub>i</sub> per month)	HAP <sub>p</sub> EMISSIONS (tons HAP <sub>p</sub> per month)	TOTAL HAP EMISSIONS (tons HAP <sub>i</sub> thru HAP <sub>p</sub> per month)
72-0049-17	17HAP <sub>i</sub>	17HAP <sub>p</sub>	17HAP
72-0049-02	02HAP <sub>i</sub>	02HAP <sub>p</sub>	02HAP
72-0049-03	03HAP <sub>i</sub>	03HAP <sub>p</sub>	03HAP
TOTAL (17 + 02 + 03)	13THAP <sub>i</sub>	13THAP <sub>p</sub>	13THAP
72-0049-08	08HAP <sub>i</sub>	08HAP <sub>p</sub>	08HAP
72-0049-10	10HAP <sub>i</sub>	10HAP <sub>p</sub>	10HAP
TOTAL (08 + 10)	810THAP <sub>i</sub>	810THAP <sub>p</sub>	810THAP
TOTAL ( 17 + 02 +03 + 08 + 10)	THAP <sub>i</sub>	THAP <sub>p</sub>	THAP

Note: p = 1, 2, 3,..... n = the number of different hazardous air pollutants. Use columns as required for the number of different hazardous air pollutants.

**YEARLY HAP EMISSIONS LOG FOR SOURCE 72-0049**

MONTH/YEAR	HAP <sub>1</sub> EMISSIONS (tons HAP <sub>1</sub> per month)	(*)HAP <sub>1</sub> EMISSIONS (tons HAP <sub>1</sub> per 12 months)	HAP <sub>p</sub> EMISSIONS (tons HAP <sub>p</sub> per month)	(*)HAP <sub>p</sub> EMISSIONS (tons HAP <sub>p</sub> per 12 months)	TOTAL HAP EMISSIONS (tons HAP <sub>1</sub> thru HAP <sub>p</sub> per month)	(*)TOTAL HAP EMISSIONS (tons HAP <sub>1</sub> thru HAP <sub>p</sub> per 12 months)
July/Year	13THAP <sub>1</sub>		13THAP <sub>p</sub>		13THAP	13THAP12
	810THAP <sub>1</sub>		810THAP <sub>p</sub>		810THAP	810THAP12
	THAP <sub>1</sub>		THAP <sub>p</sub>		THAP	THAP12
Aug/Year etc.						
June/Year	13THAP <sub>1</sub>		13THAP <sub>p</sub>		13THAP	13THAP12
	810THAP <sub>1</sub>		810THAP <sub>p</sub>		810THAP	810THAP12
	THAP <sub>1</sub>		THAP <sub>p</sub>		THAP	THAP12

(\*) The Tons per 12 Month value is the sum of the HAP emissions in the 11 months preceding the month just completed + the HAP emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this log, this value will be equal to the value for tons per month. For the second month it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed, that is, 6 (2) represents 6 tons emitted in 2 months.

Where 17HAP<sub>1</sub> = Source 72-0049-17 (C-E Boiler) Monthly HAP<sub>1</sub> EMISSIONS from **Condition E5-1** of this permit  
 17HAP<sub>p</sub> = Source 72-0049-17 (C-E Boiler) Monthly HAP<sub>p</sub> EMISSIONS from **Condition E5-1** of this permit  
 17HAP = Source 72-0049-17 (C-E Boiler) Monthly Combined HAP EMISSIONS  
 02HAP<sub>1</sub> = Source 72-0049-02 (Nat Gas Boiler) Monthly HAP<sub>1</sub> EMISSIONS from **Condition E6-3** of this permit  
 02HAP<sub>p</sub> = Source 72-0049-02 (Nat Gas Boiler) Monthly HAP<sub>p</sub> EMISSIONS from **Condition E6-3** of this permit  
 02HAP = Source 72-0049-02 (Nat Gas Boiler) Monthly Combined HAP EMISSIONS  
 03HAP<sub>1</sub> = Source 72-0049-03 (Zurn Boiler) Monthly HAP<sub>1</sub> EMISSIONS from **Condition E4-1** of this permit  
 03HAP<sub>p</sub> = Source 72-0049-03 (Zurn Boiler) Monthly HAP<sub>p</sub> EMISSIONS from **Condition E4-1** of this permit  
 03HAP = Source 72-0049-03 (Zurn Boiler) Monthly Combined HAP EMISSIONS  
  
 13THAP<sub>1</sub> = Sources 72-0049-17, -02 and -03 Monthly HAP<sub>1</sub> EMISSIONS  
 13THAP<sub>p</sub> = Sources 72-0049-17, -02 and -03 Monthly HAP<sub>p</sub> EMISSIONS  
 13THAP = Sources 72-0049-17, -02 and -03 Monthly Combined HAP EMISSIONS  
 13THAP12 = 13THAP tons per 12 month value  
  
 08HAP<sub>1</sub> = Source 72-0049-08 Monthly HAP<sub>1</sub> EMISSIONS from **Condition E11-1** of this permit  
 08HAP<sub>p</sub> = Source 72-0049-08 Monthly HAP<sub>p</sub> EMISSIONS from **Condition E11-1** of this permit  
 08HAP = Source 72-0049-08 Monthly Combined HAP EMISSIONS from **Condition E11-1** of this permit  
 10HAP<sub>1</sub> = Source 72-0049-10 Monthly HAP<sub>1</sub> EMISSIONS from **Condition E13-1** of this permit  
 10HAP<sub>p</sub> = Source 72-0049-10 Monthly HAP<sub>p</sub> EMISSIONS from **Condition E13-1** of this permit  
 10HAP = Source 72-0049-10 Monthly Combined HAP EMISSIONS from **Condition E13-1** of this permit  
  
 810THAP<sub>1</sub> = Sources 72-0049-08 and -10 Monthly HAP<sub>1</sub> EMISSIONS  
 810THAP<sub>p</sub> = Sources 72-0049-08 and -10 Monthly HAP<sub>p</sub> EMISSIONS  
 810THAP = Sources 72-0049-08 and -10 Monthly Combined HAP EMISSIONS  
 810THAP12 = 810THAP tons per 12 month value  
  
 THAP<sub>1</sub> = sum of 13THAP<sub>1</sub> and 810THAP<sub>1</sub>  
 THAP = sum of 13THAP and 810THAP  
 WFHP = (100)(810THAP12)/(THAP12)  
  
 THAP<sub>p</sub> = sum of 13THAP<sub>p</sub> and 810THAP<sub>p</sub>  
 THAP12 = THAP tons per 12 month value

**E4. Emission Source Reference Number 72-0049-03: Steam Generating - Zurn (Boiler #3)**

This source is made-up of a wood fired steam generating boiler and an associated wood waste unloading system. The boiler has a maximum rated heat input capacity of **38,400,000** BTU per hour. The exhaust stack (03) for the boiler is 60

feet above grade with inside dimensions at the outlet of 2.5 feet and flow rate of 9,545 dry standard cubic feet per minute. A multiclone collector with fly-ash reinjection is used to control particulate matter.

**Conditions E4-1 through E4-4 apply to source 72-0049-03**

**E4-1.** Particulate matter (PM) emitted from this source (72-0049-03) shall not exceed **18.2** pounds per hour. This limitation is established pursuant to TAPCR 1200-03-06-.01(7) and the information contained in the agreement letter dated **May 6, 1986** from the permittee.

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of fuel usage rates. Particulate matter emissions from this source (72-0049-03) shall be calculated and maintained by keeping the following tabular format or an alternative format which readily provides the same required information. These logs shall be used to assure compliance with this condition and **Condition 0** of this permit, and in the reporting requirements of **Condition E2** of this permit.

**MONTHLY PM EMISSIONS LOG FOR SOURCE 72-0049-03:**

**YEAR:**

Month of the year	Monthly Lumber Usage Rate (MLUR) (board feet lumber used per month)	Monthly Woodwaste Purchase Rate (MWPR) (tons woodwaste bought per month)	Boiler #3 Monthly Operating Hours (MOH) (operating hours per month)	PM Emissions Rate (PMER) (pounds PM per hour on a monthly average basis)
Jan	MLUR	MWPR	B3MOH	PMER
Feb etc	MLUR	MWPR	B3MOH	PMER
Dec	MLUR	MWPR	B3MOH	PMER

**MONTHLY HAP EMISSIONS LOG FOR SOURCE 72-0049-03:**

**MONTH:**

Boiler #3 Monthly Woodwaste Usage Rate (tons woodwaste used per month)	HAP <sub>1</sub> Emission Factor (pounds HAP <sub>1</sub> per ton woodwaste used)	HAP <sub>1</sub> EMISSIONS (tons HAP <sub>1</sub> per month)	HAP <sub>p</sub> Emission Factor (pounds HAP <sub>p</sub> per ton woodwaste used)	HAP <sub>p</sub> EMISSIONS (tons HAP <sub>p</sub> per month)
B3MWUR	aphap <sub>1</sub>	01 HAP <sub>1</sub>	aphap <sub>p</sub>	01 HAP <sub>p</sub>

Note: p = 1, 2, 3,..... n = the number of different hazardous air pollutants. Use columns as required for the number of different hazardous air pollutants.

**EQUATIONS FOR THE MONTHLY EMISSIONS LOG CALCULATIONS FOR SOURCE 72-0049-03:**

- (1) PMER=PM Emissions Rate (pounds PM per hour on a monthly average basis) = (ap = 6.0)(B3MWUR) / B3MOH
- (2) HAP<sub>p</sub> Emissions (tons HAP<sub>p</sub> per month) = (aphap<sub>p</sub>)(B3MWUR)/2000

Where: ap = wood waste combustion PM emission factor from Tables 1.6-1, 2 and 3 of AP-42 Fifth Edition, which is enclosed as **Attachment 2**. Units are in pounds of pollutant per ton of woodwaste burned. Assume 7,500 BTU per lb wood with factor of 0.4 lb PM/mmBTU heat input from AP-42, Table 1.6-1.

aphap<sub>p</sub> = wood waste combustion HAP<sub>p</sub> emission factor from Tables 1.6-4 and 5 of AP-42 Fifth Edition, which is enclosed as **Attachment 2**. Units are in pounds of pollutant per ton of woodwaste burned

B3MWUR = (MWUR)(F1) = Zurn boiler Monthly Woodwaste Usage Rate in tons woodwaste used per month

MWUR = Monthly Woodwaste Usage Rate in tons woodwaste used per month = MWMR + MWPR  
 MWMR = Monthly Woodwaste Make Rate in tons woodwaste made per month  
 = (LUD in pounds per board foot)(MLUR in board feet per month)(LWF)

LUD = Lumber Density in pounds per board foot assumed equal to 3.0

MLUR = Monthly Lumber Usage Rate in board feet of raw lumber used per month

LWF = Lumber to Woodwaste Factor assumed equal to 0.33

MWPR = Monthly Woodwaste Purchase Rate in tons woodwaste bought per month

$F1 = \text{fractional part of MWUR burned by boiler \#3} = (38.4)(B3MOH) / [(38.4)(B3MOH) + (24)(B1MOH)]$   
B3MOH = Zurn boiler monthly operating hours  
B1MOH = C-E boiler monthly operating hours from **Condition E5-1** of this permit

**E4-2.** Sulfur dioxide (SO<sub>2</sub>) emitted from this source (72-0049-03) shall not exceed **1.0** pounds per hour. This limitation is established pursuant to TAPCR 1200-03-26-.02(6)(b) and the information contained in the agreement letter dated **August 12, 1992** from the permittee.

**Compliance Method:** The potential to emit sulfur dioxide from this source (72-0049-03) is less than five tons per year. In accordance with TAPCD 1200-03-09-.04(5)(c)3. and by annual certification of compliance, the permittee shall be considered to meet the monitoring and related recordkeeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii), and the compliance requirements of TAPCR 1200-03-09-.02(11)(e)3.(i). The permittee shall submit annually a compliance certification for sulfur dioxide from source (72-0049-03).

**E4-3.** Visible emissions from this fuel burning equipment shall meet an emission limit of twenty (**20**) percent opacity except for one six (**6**) minute period per hour as specified in TAPCR 1200-03-05-.06(2). The opacity is to be measured by EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974.

**Compliance Method:** Compliance with this opacity limitation shall be certified through utilization of the Division's Opacity Matrix dated June 18, 1996 and amended September 11, 2013, using EPA Method 9 that is enclosed as Attachment 1.

**E4-4.** This source (72-0049-03) and source 72-0049-17 shall not operate simultaneously more than **500** hours per calendar year. This limitation is established pursuant to TAPCR 1200-03-06-.01(7) and the information contained in the agreement letter dated **August 21, 1996** from the permittee.

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of operating hours. The simultaneous operating hours for this source (72-0049-03) and source (72-0049-17) shall be maintained by keeping the following tabular format or an alternative format which readily provides the same required information. These logs shall be used to assure compliance with this condition and in the reporting requirements of **Condition E2** of this permit.

MONTHLY LOG FOR SIMULTANEOUS OPERATION OF SOURCES 72-0049-03 and 72-0049-17 MONTH/YEAR:

Day of the Month	Daily Simultaneous Operating Hours (DSOH) (simultaneous operating hours for source 72-0049-03 and source 72-0049-17 per day)
1	
2	
3 etc	
TOTAL	Monthly Simultaneous Operating Hours (MSOH)

CALENDAR YEAR SIMULTANEOUS OPERATION LOG FOR SOURCE 72-0049-03 and SOURCE 72-0049-17

MONTH/YEAR	Monthly Simultaneous Operating Hours (MSOH) (simultaneous operating hours for source 72-0049-03 and source 72-0049-17 per month)
January/year	MSOH
July/year etc.	MSOH
December/year	MSOH
TOTAL	Calendar Year Simultaneous Operating Hours (CYSOH)

**E5. Emission Source Reference Number 72-0049-17: Steam Generating - Combustion Engineering (Boiler #1)**

This source is made-up of a wood fired steam generating boiler and an associated wood waste unloading system. The boiler has a maximum rated heat input capacity of 24,000,000 BTU per hour. The exhaust stack (17) for the boiler is 53 feet above grade with inside dimensions at the outlet of 2.8 feet and flow rate of 11,072 dry standard cubic feet per minute. A multiclone collector with fly-ash reinjection is used to control particulate matter.

**Conditions E5-1 through E5-4 apply to source 72-0049-17**

**E5-1.** Particulate matter (PM) emitted from this source (72-0049-17) shall not exceed 16.0 pounds per hour. This limitation is established pursuant to TAPCR 1200-03-06-.01(7) and the information contained in the agreement letter dated November 7, 1990 from the permittee.

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of fuel usage rates. Particulate matter emissions from this source (72-0049-17) shall be calculated and maintained by keeping the following tabular format or an alternative format which readily provides the same required information. These logs shall be used to assure compliance with this condition and **Condition 0** of this permit, and in the reporting requirements of **Condition E2** of this permit.

MONTHLY PM EMISSIONS LOG FOR SOURCE 72-0049-17:

YEAR:

Month of the year	Monthly Lumber Usage Rate (MLUR) (board feet lumber used per month)	Monthly Woodwaste Purchase Rate (MWPR) (tons woodwaste bought per month)	Monthly Operating Hours (MOH) (operating hours per month)	PM Emissions Rate (PMER) (pounds PM per hour on a monthly average basis)
Jan	MLUR	MWPR	B1MOH	PMER
Feb etc	MLUR	MWPR	B1MOH	PMER
Dec	MLUR	MWPR	B1MOH	PMER

MONTHLY HAP EMISSIONS LOG FOR SOURCE 72-0049-17:

MONTH:

Monthly Woodwaste Usage Rate (tons woodwaste used per month)	HAP <sub>1</sub> Emission Factor (pounds HAP <sub>1</sub> per ton woodwaste used)	HAP <sub>1</sub> EMISSIONS (tons HAP <sub>1</sub> per month)	HAP <sub>p</sub> Emission Factor (pounds HAP <sub>p</sub> per ton woodwaste used)	HAP <sub>p</sub> EMISSIONS (tons HAP <sub>p</sub> per month)
B1MWUR	aphap <sub>1</sub>	02 HAP <sub>1</sub>	aphap <sub>p</sub>	02 HAP <sub>p</sub>

Note: p = 1, 2, 3,..... n = the number of different hazardous air pollutants. Use columns as required for the number of different hazardous air pollutants.

EQUATIONS FOR THE MONTHLY EMISSIONS LOG CALCULATIONS FOR SOURCE 72-0049-17:

- (1) PMER=PM Emissions Rate (pounds PM per hour on a monthly average basis) = (ap = 6.0)(B2MWUR) / B1MOH
- (2) HAP<sub>p</sub> Emissions (tons HAP<sub>p</sub> per month) = (aphap<sub>p</sub>)(B2MWUR)/2000

Where: ap = wood waste combustion PM emission factor from Tables 1.6-1, 2 and 3 of AP-42 Fifth Edition, which is enclosed as **Attachment 2**. Units are in pounds of pollutant per ton of woodwaste burned

aphap<sub>p</sub> = wood waste combustion HAP<sub>p</sub> emission factor from Tables 1.6-4 and 5 of AP-42 Fifth Edition, which is enclosed as **Attachment 2**. Units are in pounds of pollutant per ton of woodwaste burned. Assume 7,500 BTU per lb wood with factor of 0.4 lb PM/mmBTU heat input from AP-42, Table 1.6-1.

B1MWUR = (MWUR)(F2) = C-E boiler Monthly Woodwaste Usage Rate in tons woodwaste used per month

MWUR = Monthly Woodwaste Usage Rate in tons woodwaste used per month = MWMR + MWPR

MWMR = Monthly Woodwaste Make Rate in tons woodwaste made per month  
= (LUD in pounds per board foot)(MLUR in board feet per month)(LWF)

LUD = Lumber Density in pounds per board foot assumed equal to 3.0

MLUR = Monthly Lumber Usage Rate in board feet of raw lumber used per month

LWF = Lumber to Woodwaste Factor assumed equal to 0.33

MWPR = Monthly Woodwaste Purchase Rate in tons woodwaste bought per month

F2 = fractional part of MWUR burned by C-E boiler = (24)(B1MOH)/[(38.4)(B3MOH) + (24)(B1MOH)]

B3MOH = Zurn boiler monthly operating hours

B1MOH = C-E boiler monthly operating hours from **Condition E5-1** of this permit

**E5-2.** Sulfur dioxide (SO<sub>2</sub>) emitted from this source (72-0049-17) shall not exceed **0.64** pounds per hour. This limitation is established pursuant to TAPCR 1200-03-14-.01(3) and the information contained in the agreement letter dated August 12, 1992 from the permittee.

**Compliance Method:** The potential to emit sulfur dioxide from this source (72-0049-17) is less than five (5) tons per year. In accordance with TAPCD 1200-03-09-.04(5)(c)3. and by annual certification of compliance, the permittee shall be considered to meet the monitoring and related recordkeeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii), and the compliance requirements of TAPCR 1200-03-09-.02(11)(e)3.(i). The permittee shall submit annually a compliance certification for sulfur dioxide from source (72-0049-03).

**E5-3.** Visible emissions from this fuel burning equipment shall meet an emission limit of twenty (20) percent opacity except for one six (6) minute period per hour as specified in TAPCR 1200-03-05-.06(2). The opacity is to be measured by EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974.

**Compliance Method:** Compliance with this opacity limitation shall be certified through utilization of the Division's Opacity Matrix dated June 18, 1996 and amended September 11, 2013, using EPA Method 9 that is enclosed as **Attachment 1**.

**E5-4.** This source 72-0049-017, the C.E. boiler, and source 72-0049-03, the Zurn boiler, shall not operate simultaneously more than **500** hours per calendar year. This limitation is established pursuant to TAPCR 1200-03-06-.01(7) and the information contained in the agreement letter dated August 21, 1996 from the permittee.

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of operating hours. The simultaneous operating hours for the source (72-0049-03) and this source (72-0049-17) shall be maintained by keeping the logs of **Condition E4-4** of this permit.

**E6. Emission Source Reference Number 72-0049-02: Steam Generating - Boiler #2 (Natural Gas)**

This source is made-up of a natural gas fired steam generating boiler with a maximum rated heat input capacity of **18,600,000** BTU per hour and an exhaust stack (02) that is 35 feet above grade with inside diameter at the outlet of 2.0 feet and a flow rate of 4,500 dry standard cubic feet per minute (dscfm). There is no control device.

**Conditions E6-1 through E6-3 apply to source 72-0049-02**

**E6-1.** Particulate matter (PM) emitted from this source (72-0049-02) shall not exceed **1.0** pounds per hour. This limitation is established pursuant to TAPCR 1200-03-26-.02(9)(g)1. and the information contained in the agreement letter dated April 13, 1999 from the permittee.

**Compliance Method:** The potential to emit particulate matter from this source (72-0049-02) is less than five (5) tons per year. In accordance with TAPCD 1200-03-09-.04(5)(c)3. and by annual certification of compliance, the permittee shall be considered to meet the monitoring and related recordkeeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii), and the compliance requirements of TAPCR 1200-03-09-.02(11)(e)3.(i). The permittee shall submit annually a compliance certification for particulate matter from source (72-0049-02).

**E6-2.** Sulfur dioxide (SO<sub>2</sub>) emitted from this source (72-0049-02) shall not exceed **1.0** pounds per hour. This limitation is established pursuant to TAPCR 1200-03-26-.02(9)(g)1, and the information contained in the agreement letter dated **April 13, 1999** from the permittee.

**Compliance Method:** The potential to emit sulfur dioxide from this source (72-0049-02) is less than five tons per year. In accordance with TAPCD 1200-03-09-.04(5)(c)3, and by annual certification of compliance, the permittee shall be considered to meet the monitoring and related recordkeeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii), and the compliance requirements of TAPCR 1200-03-09-.02(11)(e)3.(i). The permittee shall submit annually a compliance certification for sulfur dioxide from source (72-0049-02).

**E6-3.** Hazardous air pollutants (HAP) natural gas combustion emissions from this source (72-0049-02) shall be calculated and maintained by keeping the following tabular format or an alternative format which readily provides the same required information. This log shall be used to assure compliance with **Condition 0** of this permit.

MONTHLY HAP EMISSIONS LOG FOR SOURCE 72-0049-02:

MONTH:

Natural Gas Usage (NGU) (million standard cubic feet (MSCF) per month)	HAP <sub>1</sub> Emission Factor (pounds HAP <sub>1</sub> per MSCF used)	HAP <sub>1</sub> EMISSIONS (tons HAP <sub>1</sub> per month)	HAP <sub>p</sub> Emission Factor (pounds HAP <sub>p</sub> per MSCF used)	HAP <sub>p</sub> EMISSIONS (tons HAP <sub>p</sub> per month)
NGU	aphap <sub>1</sub>	02 HAP <sub>1</sub>	aphap <sub>p</sub>	02 HAP <sub>p</sub>

Note: p = 1, 2, 3,..... n = the number of different hazardous air pollutants. Use columns as required for the number of different hazardous air pollutants.

EQUATION FOR THE MONTHLY EMISSIONS LOG CALCULATIONS FOR SOURCE 72-0049-02:

$$\text{HAP}_p \text{ Emissions (tons HAP}_p \text{ per month)} = (\text{aphap}_p)(\text{NGU})/2000$$

Where: aphap<sub>p</sub> = natural gas combustion HAP<sub>p</sub> emission factor from Tables 1.4-3 and 4 of AP-42 Fifth Edition, which is enclosed as **Attachment 3**. Units are in pounds of pollutant per million standard cubic feet of natural gas burned.

NGU = Natural Gas Usage in millions of standard cubic feet (MSCF) combusted per month

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E7. Emission Source Reference Number 72-0049-04: Woodworking Operation #1**

This source is made-up of routers, sanders, shapers, bands'aws, cutoff saws and associated equipment used for the processing of wood items. A baghouse is used for pollution control and as a recovery device to collect wood dust for transfer, through the existing closed-loop transfer system, to an existing wood dust silo. This baghouse exhausts into a stack with a height of 24 feet above grade and inside dimensions at the outlet of 6.0 feet by 4.0 feet. The stack has a flow rate of 45,000 dry standard cubic feet per minute.

**Conditions E7-1 and E7-2 apply to source 72-0049-04**

**E7-1.** Particulate matter (PM) emitted from this source (72-0049-04) shall not exceed **3.9** pounds per hour. This limitation is established pursuant to TAPCR 1200-03-07-.01(5) and the information contained in the agreement letter dated April 13, 1999 from the permittee.

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of operational parameters. Particulate matter emissions from this source (72-0049-04) shall be certified by recording, in the following tabular format or an alternative format which readily provides the same required information, daily pressure drop across the baghouse while this source (72-0049-04) is operating. This log shall be used to assure compliance with this condition and in the reporting requirements of **Condition E2** of this permit.

MONTHLY LOG FOR SOURCE 72-0049-04

MONTH:

Day of the Month	Daily Pressure Drop (PD) Across Fabric Filters (inches of water)*
1	
2	
3 etc	

\* Due allowance will be made for lower pressure drop readings which follow cleaning or replacement of bags provided the permittee establishes to the satisfaction of the Technical Secretary that these lower readings resulted from cleaning or replacement of bags.

Where: The actual PM emission rate is assumed equal to or less than the allowable PM emission rate of **3.9** pounds per hour when the pressure drop across the fabric filter is greater than or equal to **2.0** inches of water.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E7-2.** Air pollution control equipment (baghouse) used by this source (72-0049-04):

- (a) shall be operating when this source is operating, except in accordance with TAPCD Rule 1200-03-20, in order to comply with the emissions limitation of **Condition E7-1** of this permit, and
- (b) shall operate with a pressure drop of not less than **2.0** inches of water for the baghouse.

TAPCR 1200-03-10-.02(1)

**Compliance Method:** Compliance with the pressure drop requirement of **Condition E7-2** of this permit shall be certified through recordkeeping as required by **Condition E7-1** of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E8. Emission Source Reference Number 72-0049-05: Woodworking Operation #2**

This source is made-up of routers, sanders, shapers, bandsaws, cutoff saws and associated equipment used for the processing of wood items. A baghouse is used for pollution control and as a recovery device to collect wood dust for transfer, through the existing closed-loop transfer system, to an existing wood dust silo. This baghouse exhausts into a stack with a height of 24 feet above grade and inside dimensions at the outlet of 6.0 feet by 4.0 feet. The stack has a flow rate of 45,000 dry standard cubic feet per minute.

**Conditions E8-1 and E8-2 apply to source 72-0049-05**

**E8-1.** Particulate matter (PM) emitted from this source (72-0049-05) shall not exceed **3.9** pounds per hour. This limitation is established pursuant to TAPCR 1200-03-07-.01(5) and the information contained in the agreement letter dated **April 13, 1999** from the permittee.

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of operational parameters. Particulate matter emissions from this source (72-0049-05) shall be certified by recording, in the following tabular format or an alternative format which readily provides the same required information, daily pressure drop across the baghouse while this source (72-0049-05) is operating. This log shall be used to assure compliance with this condition and in the reporting requirements of **Condition E2** of this permit.

**MONTHLY LOG FOR SOURCE 72-0049-05**

MONTH:

Day of the Month	Daily Pressure Drop (PD) Across Fabric Filters (inches of water)*
1	
2	
3 etc	

\* Due allowance will be made for lower pressure drop readings which follow cleaning or replacement of bags provided the permittee establishes to the satisfaction of the Technical Secretary that these lower readings resulted from cleaning or replacement of bags.

Where: The actual PM emission rate is assumed equal to or less than the allowable PM emission rate of **3.9** pounds per hour when the pressure drop across the fabric filters is greater than or equal to **2.0** inches of water.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E8-2.** Air pollution control equipment (baghouse) used by this source (72-0049-05):

- (a) shall be operating when this source is operating, except in accordance with TAPCD Rule 1200-03-20, in order to comply with the emissions limitation of **Condition E8-1** of this permit, and
- (b) shall operate with a pressure drop of not less than **2.0** inches of water for the baghouse.

TAPCR 1200-03-10-.02(1)

**Compliance Method:** Compliance with the pressure drop requirement of **Condition E8-2(b)** of this permit shall be certified through recordkeeping as required by **Condition E8-1** of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E9. Emission Source Reference Number 72-0049-06: Woodworking Operation #3**

This source is made-up of routers, sanders, shapers, bandsaws, cutoff saws and associated equipment used for the processing of wood items. A baghouse is used for pollution control and as a recovery device to collect wood dust for transfer, through the existing closed-loop transfer system, to an existing wood dust silo. This baghouse exhausts into a stack with a height of 24 feet above grade and inside dimensions at the outlet of 6.0 feet by 4.0 feet. The stack has a flow rate of 45,000 dry standard cubic feet per minute.

**Conditions E9-1 and E9-2 apply to source 72-0049-06**

**E9-1.** Particulate matter (PM) emitted from this source (72-0049-06) shall not exceed **3.9** pounds per hour. This limitation is established pursuant to TAPCR 1200-03-07-.01(5) and the information contained in the agreement letter dated April 13, 1999 from the permittee.

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of operational parameters. Particulate matter emissions from this source (72-0049-06) shall be certified by recording in the following tabular format or an alternative format which readily provides the same required information, daily pressure drop across the baghouse while this source (72-0049-06) is operating. This log shall be used to assure compliance with this condition and in the reporting requirements of **Condition E2** of this permit.

**MONTHLY LOG FOR SOURCE 72-0049-06**

MONTH:

Day of the Month	Daily Pressure Drop (PD) Across Fabric Filters (inches of water)*
1	
2	
3 etc	

\* Due allowance will be made for lower pressure drop readings which follow cleaning or replacement of bags provided the permittee establishes to the satisfaction of the Technical Secretary that these lower readings resulted from cleaning or replacement of bags.

Where: The actual PM emission rate is assumed equal to or less than the allowable PM emission rate of **3.9** pounds per hour when the pressure drop across the fabric filters is greater than or equal to **2.0** inches of water.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E9-2.** Air pollution control equipment (baghouse) used by this source (72-0049-06):

- (a) shall be operating when this source is operating, except in accordance with TAPCD Rule 1200-03-20, in order to comply with the emissions limitation of **Condition E9-1** of this permit, and
- (b) shall operate with a pressure drop of not less than **2.0** inches of water for the baghouse.

TAPCR 1200-03-10-.02(1)

**Compliance Method:** Compliance with the pressure drop requirement of **Condition E9-2(b)** of this permit shall be certified through recordkeeping as required by **Condition E9-1** of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E10. Emission Source Reference Number 72-0049-07: Woodworking Operation #4**

This source is made-up of routers, sanders, shapers, bandsaws, cutoff saws and associated equipment used for the processing of wood items. A baghouse is used for pollution control and as a recovery device to collect wood dust for transfer, through the existing closed-loop transfer system, to an existing wood dust silo. This baghouse exhausts into a stack with a height of 24 feet above grade and inside dimensions at the outlet of 4.0 feet by 4.0 feet. The stack has a flow rate of 29,600 dry standard cubic feet per minute.

**Conditions E10-1 and E10-2 apply to source 72-0049-07**

**E10-1.** Particulate matter (PM) emitted from this source (72-0049-07) shall not exceed **0.02** grains per dry standard cubic foot (**5.07** pounds per hour).

TAPCR 1200-03-07-.04(1)

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of operational parameters. Particulate matter emissions from this source (72-0049-07) shall be certified by recording, in the following tabular format or an alternative format which readily provides the same required information, the daily pressure drops across the baghouse while this source (72-0049-07) is operating. This log shall be used to assure compliance with this condition and in the reporting requirements of **Condition E2** of this permit.

MONTHLY LOG FOR SOURCE **72-0049-07**

MONTH:

Day of the Month	Daily Pressure Drop (PD) Across Fabric Filters (inches of water)*
1	
2	
3 etc	

\* Due allowance will be made for lower pressure drop readings which follow cleaning or replacement of bags provided the permittee establishes to the satisfaction of the Technical Secretary that these lower readings resulted from cleaning or replacement of bags.

Where: The actual PM emission rate is assumed equal to or less than the allowable PM emission rate of **5.07** pounds per hour when the pressure drop across each of the fabric filters is greater than or equal to **2.0** inches of water.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E10-2.** Air pollution control equipment (baghouse) used by this source (72-0049-07):

- (a) shall be operating when this source is operating, except in accordance with TAPCD Rule 1200-03-20, in order to comply with the emissions limitation of **Condition E10-1** of this permit, and
- (b) shall operate with a pressure drop of not less than **2.0** inches of water for the baghouse.

TAPCR 1200-03-10-.02(1)

**Compliance Method:** Compliance with the pressure drop requirement of **Condition E10-2(b)** of this permit shall be certified through recordkeeping as required by **Condition E10-1** of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

**E11. Emission Source Reference Number 72-0049-08: Wood Furniture Finishing Operation #1**

This operation is made-up of six (6) spray booths, two (2) electric infrared and one (1) steam heated curing ovens, and eight (8) stacks venting emissions to the atmosphere. There is no volatile organic compounds (VOC) control device. Particulate matter is controlled by exhaust filters for each spray booth. The following stacks are associated with this source:

Stack ID	Height Above Grade (feet)	Outlet Inside Diameter (feet)	Exhaust Flow at Exit Conditions (dry standard cubic feet per minute)
09	22	2.5	7,200
10-1 and 10-2	29	2.0	8,000
11 and 12	27	2.5	11,700
14	24	2.0	8,000
16-1 and 16-2	24	2.0	8,500

**Conditions E11-1 through E11-3 apply to source 72-0049-08**

**E11-1.** Volatile organic compounds emitted from this source (72-0049-08) shall not exceed **43.0** tons per month and **258.0** tons during any period of 12 consecutive months.

TAPCR 1200-03-07-.07(2)

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of material usage rates. Volatile organic compounds HAP and particulate matter emissions from this source (72-0049-08) shall be calculated and maintained by keeping the following tabular format or an alternative format which readily provides the same required information. These logs shall be used as follows: to assure compliance with this condition and **Condition E11-2** of this permit; in the **annual emissions analysis** required by **Condition E1** of this permit; in the compliance reporting required by **Condition E2** of this permit; and in the data required by **Condition 0** of this permit.

**MONTHLY EMISSIONS LOG FOR SOURCE 72-0049-08: Part A**

**MONTH:**

MATERIAL NAME	USAGE (gallons per month (gpm))	VOC CONTENT (pounds VOC per gallon)	VOC EMISSIONS (tons VOC per month)	HAP <sub>1</sub> CONTENT (pounds HAP <sub>1</sub> per gallon)	HAP <sub>1</sub> EMISSIONS (tons HAP <sub>1</sub> per month)	HAP <sub>p</sub> CONTENT (pounds HAP <sub>p</sub> per gallon)	HAP <sub>p</sub> EMISSIONS (tons HAP <sub>p</sub> per month)	TOTAL HAP EMISSIONS (tons HAP <sub>1</sub> thru HAP <sub>p</sub> per month)
FINISHING <sub>i</sub>								
ADHESIVE <sub>i</sub>								
STRIPPABL								
E <sub>k</sub>								
CLEAN-UP <sub>i</sub>								
<b>TOTAL</b>					<b>08HAP<sub>1</sub></b>		<b>08HAP<sub>p</sub></b>	<b>08HAP</b>

Note: p = 1, 2, 3,..... n = the number of different hazardous air pollutants. Use columns as required for the number of different hazardous air pollutants. Finishing materials are stains, washcoats, sealers, topcoats, basecoats, enamels, thinners or other coatings.

MONTHLY EMISSIONS LOG FOR SOURCE 72-0049-08: Part B

MONTH:

MATERIAL NAME	USAGE (gallons per month (gpm))	SOLIDS CONTENT (pounds SOLIDS per gallon)	SOLIDS USAGE (tons SOLIDS per month)	Operating Hours (operating hours per month)	PM Emissions Rate (pounds PM per hour on a monthly average basis)
FINISHING <sub>i</sub>					
ADHESIVE <sub>j</sub>					
STRIPPABLE <sub>k</sub>					
CLEAN-UP <sub>i</sub>					
TOTAL			TOTAL SOLIDS	MOH	PMER

YEARLY EMISSIONS LOG FOR SOURCE 72-0049-08

MONTH/YEAR	VOC EMISSIONS (tons VOC per month)	(*)VOC EMISSIONS (tons VOC per 12 months)
July/year		
Aug/year etc.		
June/year		

(\*) The Tons per 12 Month value is the sum of the VOC emissions in the 11 months preceding the month just completed + the VOC emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this log, this value will be equal to the value for tons per month. For the second month it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed, that is, 6 (2) represents 6 tons emitted in 2 months.

EQUATIONS FOR THE EMISSIONS LOG CALCULATIONS FOR SOURCE 72-0049-08:

- (1) MATERIAL (FINISHING<sub>i</sub> or ADHESIVE<sub>j</sub> or STRIPPABLE<sub>k</sub> or CLEAN-UP<sub>i</sub>) VOC Emissions (tons VOC per month)  
= (MATERIAL Usage(gpm))( MATERIAL VOC Content (pounds VOC per gallon))/(2000 pounds/ton)
- (2) MATERIAL (FINISHING<sub>i</sub> or ADHESIVE<sub>j</sub> or STRIPPABLE<sub>k</sub> or CLEAN-UP<sub>i</sub>) HAP<sub>p</sub> Emissions (tons HAP<sub>p</sub> per month)  
= (MATERIAL Usage(gpm)( MATERIAL HAP<sub>p</sub> Content (pounds HAP<sub>p</sub> per gallon))(K)/(2000 pounds/ton)  
where K = 1 when HAP<sub>p</sub> is gaseous and K = (1 - FRE)(OS) when HAP<sub>p</sub> is non-gaseous,  
FRE = Filter Removal Efficiency assumed equal to 0.98 and OS = Overspray assumed equal to 0.35
- (3) MATERIAL (FINISHING<sub>i</sub> or ADHESIVE<sub>j</sub> or STRIPPABLE<sub>k</sub> or CLEAN-UP<sub>i</sub>) SOLIDS Usage (tons SOLIDS per month)  
= (MATERIAL Usage(gpm)( MATERIAL SOLIDS Content (pounds SOLIDS per gallon))/(2000 pounds/ton)
- (4) TOTAL SOLIDS = TOTAL MATERIAL SOLIDS Usage (tons SOLIDS per month)
- (5) MOH = operating hours per month
- (6) PMER = PM Emissions Rate (pounds PM per hour on a monthly average basis)  
= TOTAL SOLIDS (tons SOLIDS per month)(1 - FRE)(OS)/MOH  
where FRE = Filter Removal Efficiency assumed equal to 0.98 and OS = Overspray assumed equal to 0.35.

**E11-2.** Particulate matter (PM) emitted from this source (72-0049-08) shall not exceed **0.02** grains per dry standard cubic foot (**7.74** pounds per hour).

TAPCR 1200-03-07-.04(1)

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of material usage rates. Particulate matter from this source (72-0049-08) shall be calculated by keeping the logs of **Conditions E11-1** and **E11-3** of this permit.

**E11-3.** Air pollution control equipment (exhaust filters) used by this source (72-0049-08) shall be operating when this source is operating, except in accordance with TAPCD Rule 1200-03-20, in order to comply with the PM emissions limitation of **Condition E11-2** of this permit. Additionally, a monthly log of maintenance, inspections and dates on which exhaust filters are replaced shall be kept. TAPCR 1200-03-10-.02(1)

**E12. Emission Source Reference Number 72-0049-09: Adhesive Coating Operation**

This operation is made-up of seven (7) spray booths with seven (7) stacks venting emissions to the atmosphere. The materials used for this operation is a 100% water-based system. Particulate matter is controlled by exhaust filters for each spray booth. The following stacks are associated with this source:

Stack ID	Height Above Grade (feet)	Outlet Inside Diameter (feet)	Exhaust Flow at Exit Conditions (dry standard cubic feet per minute)
01, 08, 13, 15, 20-1 and 20-2	24	2.0	7,000
24	27	2.5	8,000

**Conditions E12-1 and E12-2 apply to source 72-0049-09**

**E12-1.** Particulate matter (PM) emitted from this source (72-0049-09) shall not exceed 0.02 grains per dry standard cubic foot (8.6 pounds per hour).

TAPCR 1200-03-07-.04(1)

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of material usage rates. Particulate matter emissions from this source (72-0049-09) shall be calculated and maintained by keeping the following tabular format or an alternative format which readily provides the same required information. These logs shall be used as follows: to assure compliance with this condition; in the **annual emissions analysis** required by **Condition E1** of this permit; in the reporting required by **Condition E2** of this permit; and in the data required by **Condition 0** of this permit.

**MONTHLY EMISSIONS LOG FOR SOURCE 72-0049-09:**

MONTH: \_\_\_\_\_

MATERIAL NAME	USAGE (gallons per month (gpm))	SOLIDS CONTENT (pounds SOLIDS per gallon)	SOLIDS USAGE (tons SOLIDS per month)	Operating Hours (operating hours per month)	PM Emissions Rate (pounds PM per hour on a monthly average basis)
ADHESIVE <sub>j</sub>					
CLEAN-UP <sub>i</sub>					
<b>TOTAL</b>			<b>TOTAL SOLIDS</b>	<b>MOH</b>	<b>PMER</b>

**EQUATIONS FOR THE EMISSIONS LOG CALCULATIONS FOR SOURCE 72-0049-09:**

- (1) MATERIAL (ADHESIVE<sub>j</sub> or CLEAN-UP<sub>i</sub>) HAP<sub>p</sub> Emissions (tons HAP<sub>p</sub> per month) = (MATERIAL Usage(gpm)( MATERIAL HAP<sub>p</sub> Content (pounds HAP<sub>p</sub> per gallon))(K)/(2000 pounds/ton)  
 where K = 1 when HAP<sub>p</sub> is gaseous and K = (1 - FRE)(OS) when HAP<sub>p</sub> is non-gaseous,  
 FRE = Filter Removal Efficiency assumed equal to 0.98 and OS = Overspray assumed equal to 0.35
- (2) MATERIAL (ADHESIVE<sub>j</sub> or CLEAN-UP<sub>i</sub>) SOLIDS Usage (tons SOLIDS per month) = (MATERIAL Usage(gpm)( MATERIAL SOLIDS Content (pounds SOLIDS per gallon))/(2000 pounds/ton)
- (3) TOTAL SOLIDS = TOTAL MATERIAL SOLIDS Usage (tons SOLIDS per month)
- (4) MOH = operating hours per month
- (5) PMER = PM Emissions Rate (pounds PM per hour on a monthly average basis) = TOTAL SOLIDS (tons SOLIDS per month)(1 - FRE)(OS)/MOH  
 where FRE = Filter Removal Efficiency assumed equal to 0.98 and OS = Overspray assumed equal to 0.35.

**E12-2.** Air pollution control equipment (exhaust filters) used by this source (72-0049-09) shall be operating when this source is operating, except in accordance with TAPCD Rule 1200-03-20, in order to comply with the PM emissions limitation of **Condition E12-1** of this permit. Additionally, a monthly log of maintenance, inspections and dates on which exhaust filters are replaced shall be kept. TAPCR 1200-03-10-.02(1)

**E13. Emission Source Reference Number 72-0049-10: Electrodeposition Metal Coating Operation**

This operation is NSPS by rule TAPCR 1200-03-16-.37 and is made-up of a metal dip coater, an aqueous degreaser, a natural gas fired baking oven with a maximum rated heat input capacity of 1,200,000 BTU per hour, and three (3) stacks venting emissions to the atmosphere. There is no volatile organic compounds (VOC) control device. The following stacks are associated with this source:

Stack ID	Height Above Grade (feet)	Outlet Inside Diameter (feet)	Exhaust Flow at Exit Conditions (dry standard cubic feet per minute)
22-1	27	1.5	4,200
22-2	27	1.5	4,200
22-3	28	2.0	4,290

**Conditions E13-1 and E13-2 apply to source 72-0049-10**

**E13-1.** Volatile organic compounds emitted from this source (72-0049-10) shall not exceed **1.5 tons per month** and **18.1 tons** during any period of 12 consecutive months.

TAPCR 1200-03-07-.07(2)

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of material usage rates. Volatile organic compounds and HAP emissions from this source (72-0049-10) shall be calculated and maintained by keeping the following tabular format or an alternative format which readily provides the same required information. These logs shall be used as follows: to assure compliance with this condition; in the **annual emissions analysis** required by **Condition E1** of this permit; in the reporting required by **Condition E2** of this permit; and in the data required by **Condition 0** of this permit.

MONTHLY EMISSIONS LOG FOR SOURCE 72-0049-10: Part A

MONTH:

MATERIAL NAME	USAGE (gallons per month (gpm))	VOC CONTENT (pounds VOC per gallon)	VOC EMISSIONS (tons VOC per month)	HAP <sub>1</sub> CONTENT (pounds HAP <sub>1</sub> per gallon)	HAP <sub>1</sub> EMISSIONS (tons HAP <sub>1</sub> per month)	HAP <sub>p</sub> CONTENT (pounds HAP <sub>p</sub> per gallon)	HAP <sub>p</sub> EMISSIONS (tons HAP <sub>p</sub> per month)	TOTAL HAP EMISSIONS (tons HAP <sub>1</sub> thru HAP <sub>p</sub> per month)
COATING <sub>i</sub>								
<b>TOTAL</b>			<b>MVOC</b>		<b>10HAP<sub>1</sub></b>		<b>10HAP<sub>p</sub></b>	<b>10HAP</b>

Note: p = 1, 2, 3,..... n = the number of different hazardous air pollutants. Use columns as required for the number of different hazardous air pollutants. Coating materials are stains, washcoats, sealers, topcoats, basecoats, enamels, thinners, solvents, paints and so forth.

MONTHLY EMISSIONS LOG FOR SOURCE 72-0049-10: Part B

MONTH:

MATERIAL NAME	USAGE (gallons per month (gpm))	SOLIDS CONTENT (solids volume fraction)	SOLIDS VOLUME (gallons SOLIDS per month)	VOC Standard (G) (pounds of VOC per gallon of coating solids applied on a monthly basis)
COATING <sub>i</sub>				
<b>TOTAL</b>			<b>TOTAL SOLIDS VOLUME (TSV)</b>	<b>G</b>

YEARLY EMISSIONS LOG FOR SOURCE 72-0049-10

MONTH/YEAR	VOC EMISSIONS (tons VOC per month)	(*)VOC EMISSIONS (tons VOC per 12 months)
July/year	MVOC	
Aug/year etc.	MVOC	
June/year	MVOC	

(\*) The Tons per 12 Month value is the sum of the VOC emissions in the 11 months preceding the month just completed + the VOC emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this log, this value will be equal to the value for tons per month. For the second month it will be the sum of the first month and the second month. Indicate in parentheses the number of months summed, that is, 6 (2) represents 6 tons emitted in 2 months.

EQUATIONS FOR THE EMISSIONS LOG CALCULATIONS FOR SOURCE 72-0049-10:

- (1) MATERIAL (COATING<sub>i</sub>) VOC Emissions (tons VOC per month)  
= (MATERIAL Usage(gpm))( MATERIAL VOC Content (pounds VOC per gallon))/(2000 pounds/ton)
- (2) MVOC = Total Monthly VOC emissions (tons VOC per month)
- (3) MATERIAL (COATING<sub>i</sub>) HAP<sub>p</sub> Emissions (tons HAP<sub>p</sub> per month)  
= (MATERIAL Usage(gpm))( MATERIAL HAP<sub>p</sub> Content (pounds HAP<sub>p</sub> per gallon))/(2000 pounds/ton)
- (4) MATERIAL (COATING<sub>i</sub>) SOLIDS VOLUME (gallons SOLIDS per month)  
= (MATERIAL Usage(gpm))( MATERIAL SOLIDS CONTENT (SOLIDS volume fraction))/(2000 pounds/ton)
- (5) TSV = TOTAL SOLIDS VOLUME = TOTAL MATERIAL SOLIDS VOLUME (gallons SOLIDS per month)
- (6) G = (2000\*MVOC)/(T\*TSV) = volume-weighted average mass of VOC consumed per unit volume of coating solids applied during the calendar month, where T = Transfer Efficiency for Electrodeposition = 0.95

G is required by **Condition E13-2** of this permit to be less than or equal to **7.48** pounds of VOC per gallon of coating solids applied.

**E13-2.** As specified in TAPCR 1200-03-16-.37(3)(a), volatile organic compounds emitted from this source (72-0049-10) shall not exceed **0.9** kilogram of VOC per liter (**7.48** pounds of VOC per gallon) of coating solids applied on a monthly basis.

**Compliance Method:** Compliance with this emission limitation shall be certified through recordkeeping of coating content in pounds VOC per gallon coating solids. The VOC standard of **Condition E13-2** of this permit shall be calculated and maintained by keeping the logs of **Condition E13-1** of this permit.

**END OF PERMIT NUMBER: 569119**

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**ATTACHMENT 1**

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**OPACITY MATRIX DECISION TREE for  
VISIBLE EMISSION EVALUATION by EPA METHOD 9**

**Dated JUNE 18, 1996**

**Amended SEPTEMBER 11, 2013**

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**Decision Tree PM for Opacity for Sources Utilizing EPA Method 9\***

Notes:

PM = Periodic Monitoring required by 1200-3-9-.02(11)(e)(iii).

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emission standards in paragraph 1200-3-5-.01. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly referred to as Enhanced Monitoring – Proposed 40 CFR 64).

Examine each emission unit using this Decision Tree to determine the PM required.\*

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

**Typical Pollutants**  
Particulates, VOC, CO, SO<sub>2</sub>, NO<sub>x</sub>, HCl, HF, HBr, Ammonia, and Methane.

Initial observations are to be repeated within 90 days of startup of a modified source, if a new construction permit is issued for modification of the source.

A VEE conducted by TAPCD personnel after the Title V permit is issued will also constitute an initial reading.

**Reader Error**  
EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards: The TAPCD guidance is to declare non-compliance when the highest six-minute average\*\* exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

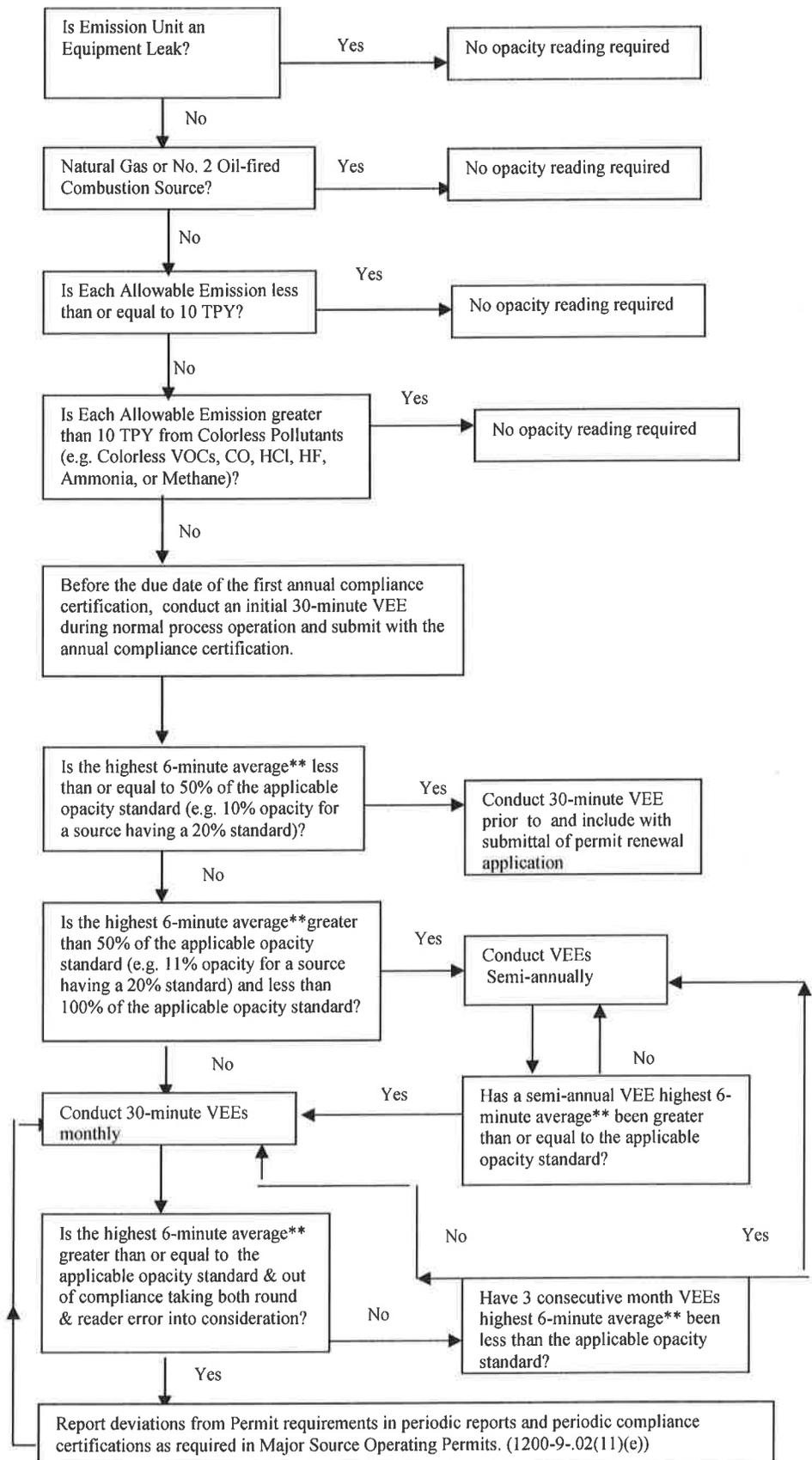
EPA Method 9, NSPS or NESHAPS stipulate opacity standards: EPA guidance is to allow only engineering round. No allowance for reader error is given.

\*Not applicable to Asbestos manufacturing subject to 40 CFR 61.142

\*\*Or second highest six-minute average, if the source has an exemption period stipulated in either the regulations or in the permit.

Dated June 18, 1996

Amended September 11, 2013



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**ATTACHMENT 2**

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**AP-42 UPDATED FIFTH EDITION EMISSION FACTORS for  
WOOD WASTE COMBUSTION in BOILERS**

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Table 1.6-1. EMISSION FACTORS FOR PM FROM WOOD RESIDUE COMBUSTION<sup>a</sup>

Fuel	PM Control Device	Filterable PM		Filterable PM-10 <sup>b</sup>		Filterable PM-2.5 <sup>c</sup>	
		Emission Factor (lb/MMBtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMBtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMBtu)	EMISSION FACTOR RATING
Bark/Bark and Wet Wood	No Control <sup>e</sup>	0.56 <sup>d</sup>	C	0.50 <sup>e</sup>	D	0.43 <sup>e</sup>	D
Dry Wood	No Control <sup>e</sup>	0.40 <sup>f</sup>	A	0.36 <sup>e</sup>	D	0.31 <sup>e</sup>	D
Wet Wood	No Control <sup>e</sup>	0.33 <sup>g</sup>	A	0.29 <sup>e</sup>	D	0.25 <sup>e</sup>	D
Bark	Mechanical Collector	0.54 <sup>h</sup>	D	0.49 <sup>e</sup>	D	0.29 <sup>e</sup>	D
Bark and Wet Wood	Mechanical Collector	0.35 <sup>i</sup>	C	0.32 <sup>e</sup>	D	0.19 <sup>e</sup>	D
Dry Wood	Mechanical Collector	0.30 <sup>j</sup>	A	0.27 <sup>e</sup>	D	0.16 <sup>e</sup>	D
Wet Wood	Mechanical Collector	0.22 <sup>k</sup>	A	0.20 <sup>e</sup>	D	0.12 <sup>e</sup>	D
All Fuels <sup>m</sup>	Electrolyzed Gravel Bed	0.1 <sup>m</sup>	D	0.074 <sup>e</sup>	D	0.065 <sup>e</sup>	D
All Fuels <sup>m</sup>	Wet Scrubber	0.066 <sup>n</sup>	A	0.065 <sup>e</sup>	D	0.065 <sup>e</sup>	D
All Fuels <sup>m</sup>	Fabric Filter	0.1 <sup>o</sup>	C	0.074 <sup>e</sup>	D	0.065 <sup>e</sup>	D
All Fuels <sup>m</sup>	Electrostatic Precipitator	0.054 <sup>p</sup>	B	0.04 <sup>e</sup>	D	0.035 <sup>e</sup>	D
All Fuels <sup>m</sup>	All Controls/No Controls	<u>Condensable</u> PM 0.017 <sup>q</sup>	A				

Table 1.6-1. (cont.)

a	Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV * 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. CPM = Condensible Particulate Matter. These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.
b	PM-10 = particulate matter less than or equal to 10 microns in aerodynamic diameter. PM-2.5 = particulate matter less than or equal to 2.5 microns in aerodynamic diameter. Filterable PM = PM captured and measured on the filter in an EPA Method 5 (or equivalent) sampling train. Condensible PM = PM captured and measured in an EPA Method 202 (or equivalent) sampling train.
c	Factor represents boilers with no controls, Breslove separators, Breslove separators with reinjection, and mechanical collectors with reinjection. Mechanical collectors include cyclones and multiclones.
d	References 19-21, 88.
e	Cumulative mass % provided in Table 1.6-6 for Bark and Wet Wood-fired boilers multiplied by the Filterable PM factor.
f	References 22-32, 88.
g	References 26, 33-36, 88.
h	References 37, 38, 88.
i	References 26, 39-41, 88.
j	References 26, 27, 34, 42-54, 88.
k	Reference 55-57, 88.
l	All fuels = Bark, Bark and Wet Wood, Dry Wood, and Wet Wood.
m	References 27, 58, 88.
n	References 26, 59-66, 88.
o	References 26, 67-70, 88.
p	References 26, 71-74, 88.
q	References 19-21, 25, 28, 29, 31, 32, 36-41, 46, 51, 53-60, 62 - 65, 67-69, 72-75, 88.

Table 1.6-2. EMISSION FACTORS FOR NO<sub>x</sub>, SO<sub>2</sub>, AND CO FROM WOOD RESIDUE COMBUSTION<sup>a</sup>

Source Category <sup>c</sup>	NO <sub>x</sub> <sup>b</sup>		SO <sub>2</sub> <sup>b</sup>		CO <sup>b</sup>	
	Emission Factor (lb/MMBtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMBtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMBtu)	EMISSION FACTOR RATING
Bark/bark and wet wood/wet wood-fired boiler	0.22 <sup>d</sup>	A	0.025 <sup>e</sup>	A	0.60 <sup>f,g,h</sup>	A
Dry wood-fired boilers	0.49 <sup>b</sup>	C	0.025 <sup>e</sup>	A	0.60 <sup>f,g,h</sup>	A

<sup>a</sup> Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV \* 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. To convert lb/MMBtu to kg/l, multiply by 4.3E-10. NO<sub>x</sub> = Nitrogen oxides, SO<sub>2</sub> = Sulfur dioxide, CO = Carbon monoxide.

<sup>b</sup> Factors represent boilers with no controls or with particulate matter controls.

<sup>c</sup> These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

<sup>d</sup> References 19, 33, 34, 39, 40, 41, 55, 62-64, 67, 70, 72, 78, 79, 88-89.

<sup>e</sup> References 26, 45, 50, 72, 88-89.

<sup>f</sup> References 26, 59, 88-89.

<sup>g</sup> References 19, 26, 39-41, 60-64, 67, 68, 70, 75, 79, 88-89.

<sup>h</sup> References 30, 34, 45, 50, 80, 81, 88-89.

<sup>i</sup> References 26, 30, 45-51, 80-82, 88-89.

<sup>j</sup> Emission factor is for stokers and dutch ovens/fuel cells. References 26, 34, 36, 55, 60, 65, 71, 72, 75. **CO Factor for fluidized bed combustors is 0.17 lb/MMBtu.** References 26, 72, 88-89.

Table 1.6-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS, TOC, VOC, NITROUS OXIDE, AND CARBON DIOXIDE FROM WOOD RESIDUE COMBUSTION<sup>a</sup>

Organic Compound	Average Emission Factor <sup>b</sup> (lb/MMBtu)	EMISSION FACTOR RATING
Acenaphthene	9.1 E-07 <sup>c</sup>	B
Acenaphthylene	5.0 E-06 <sup>d</sup>	A
Acetaldehyde	8.3 E-04 <sup>e</sup>	A
Acetone	1.9 E-04 <sup>f</sup>	D
Acetophenone	3.2 E-09 <sup>g</sup>	D
Acrolein	4.0 E-03 <sup>h</sup>	C
Anthracene	3.0 E-06 <sup>i</sup>	A
Benzaldehyde	<8.5 E-07 <sup>l</sup>	D
Benzene	4.2 E-03 <sup>k</sup>	A
Benzo(a)anthracene	6.5 E-08 <sup>j</sup>	B
Benzo(a)pyrene	2.6 E-06 <sup>m</sup>	A
Benzo(b)fluoranthene	1.0 E-07 <sup>l</sup>	B
Benzo(e)pyrene	2.6 E-09 <sup>f</sup>	D
Benzo(g,h,i)perylene	9.3 E-08 <sup>n</sup>	B
Benzo(j,k)fluoranthene	1.6 E-07 <sup>o</sup>	D
Benzo(k)fluoranthene	3.6 E-08 <sup>p</sup>	B
Benzoic acid	4.7 E-08 <sup>q</sup>	D
bis(2-Ethylhexyl)phthalate	4.7 E-08 <sup>r</sup>	D
Bromomethane	1.5 E-05 <sup>f</sup>	D
2-Butanone (MEK)	5.4 E-06 <sup>f</sup>	D
Carbazole	1.8 E-06 <sup>f</sup>	D
Carbon tetrachloride	4.5 E-05 <sup>e</sup>	D
Chlorine	7.9 E-04 <sup>s</sup>	D
Chlorobenzene	3.3 E-05 <sup>f</sup>	D
Chloroform	2.8 E-05 <sup>f</sup>	D
Chloromethane	2.3 E-05 <sup>f</sup>	D
2-Chloronaphthalene	2.4 E-09 <sup>f</sup>	D
2-Chlorophenol	2.4 E-08 <sup>u</sup>	C
Chrysene	3.8 E-08 <sup>e</sup>	B
Crotonaldehyde	9.9 E-06 <sup>j</sup>	D
Decachlorobiphenyl	2.7 E-10 <sup>t</sup>	D
Dibenzo(a,h)anthracene	9.1 E-09 <sup>j</sup>	B
1,2-Dibromoethene	5.5 E-05 <sup>f</sup>	D
Dichlorobiphenyl	7.4 E-10 <sup>t</sup>	C
1,2-Dichloroethane	2.9 E-05 <sup>e</sup>	D
Dichloromethane	2.9 E-04 <sup>v</sup>	D
1,2-Dichloropropane	3.3 E-05 <sup>f</sup>	D
2,4-Dinitrophenol	1.8 E-07 <sup>w</sup>	C
Ethylbenzene	3.1 E-05 <sup>f</sup>	D
Fluoranthene	1.6 E-06 <sup>s</sup>	B
Fluorene	3.4 E-06 <sup>i</sup>	A
Formaldehyde	4.4 E-03 <sup>v</sup>	A
Heptachlorobiphenyl	6.6E-11 <sup>r</sup>	D

Table 1.6-3. (cont.)

Organic Compound	Average Emission Factor <sup>b</sup> (lb/MMBtu)	EMISSION FACTOR RATING
Hexachlorobiphenyl	5.5 E-10 <sup>r</sup>	D
Hexanal	7.0 E-06 <sup>r</sup>	D
Heptachlorodibenzo-p-dioxins	2.0 E-09 <sup>aa</sup>	C
Heptachlorodibenzo-p-furans	2.4 E-10 <sup>aa</sup>	C
Hexachlorodibenzo-p-dioxins	1.6 E-06 <sup>aa</sup>	C
Hexachlorodibenzo-p-furans	2.8 E-10 <sup>aa</sup>	C
Hydrogen chloride	1.9 E-02 <sup>j</sup>	C
Indeno(1,2,3,c,d)pyrene	8.7 E-08 <sup>i</sup>	B
Isobutyraldehyde	1.2 E-05 <sup>r</sup>	D
Methane	2.1 E-02 <sup>f</sup>	C
2-Methylnaphthalene	1.6 E-07 <sup>r</sup>	D
Monochlorobiphenyl	2.2 E-10 <sup>r</sup>	D
Naphthalene	9.7 E-05 <sup>ab</sup>	A
2-Nitrophenol	2.4 E-07 <sup>n</sup>	C
4-Nitrophenol	1.1 E-07 <sup>n</sup>	C
Octachlorodibenzo-p-dioxins	6.6 E-08 <sup>aa</sup>	B
Octachlorodibenzo-p-furans	8.8 E-11 <sup>aa</sup>	C
Pentachlorodibenzo-p-dioxins	1.5 E-09 <sup>aa</sup>	B
Pentachlorodibenzo-p-furans	4.2 E-10 <sup>aa</sup>	C
Pentachlorobiphenyl	1.2 E-09 <sup>r</sup>	D
Pentachlorophenol	5.1 E-08 <sup>ac</sup>	C
Perylene	5.2 E-10 <sup>f</sup>	D
Phenanthrene	7.0 E-06 <sup>ad</sup>	B
Phenol	5.1 E-05 <sup>ac</sup>	C
Propanal	3.2 E-06 <sup>r</sup>	D
Propionaldehyde	6.1 E-05 <sup>f</sup>	D
Pyrene	3.7 E-06 <sup>f</sup>	A
Styrene	1.9 E-03 <sup>f</sup>	D
2,3,7,8-Tetrachlorodibenzo-p-dioxins	8.6 E-12 <sup>aa</sup>	C
Tetrachlorodibenzo-p-dioxins	4.7 E-10 <sup>ae</sup>	C
2,3,7,8-Tetrachlorodibenzo-p-furans	9.0 E-11 <sup>aa</sup>	C
Tetrachlorodibenzo-p-furans	7.5 E-10 <sup>aa</sup>	C
Tetrachlorobiphenyl	2.5 E-09 <sup>r</sup>	D
Tetrachloroethene	3.8 E-05 <sup>f</sup>	D
o-Tolualdehyde	7.2 E-06 <sup>j</sup>	D
p-Tolualdehyde	1.1 E-05 <sup>r</sup>	D
Toluene	9.2 E-04 <sup>f</sup>	C
Trichlorobiphenyl	2.6 E-09 <sup>r</sup>	C
1,1,1-Trichloroethane	3.1 E-05 <sup>f</sup>	D
Trichloroethene	3.0 E-05 <sup>f</sup>	D
Trichlorofluoromethane	4.1 E-05	D
2,4,6-Trichlorophenol	<2.2 E-08 <sup>ah</sup>	C

Table 1.6-3. (cont.)

Organic Compound	Average Emission Factor <sup>b</sup> (lb/MMBtu)	EMISSION FACTOR RATING
Vinyl Chloride	1.8 E-05 <sup>c</sup>	D
o-Xylene	2.5 E-05 <sup>c</sup>	D
Total organic compounds (TOC)	0.039 <sup>ai</sup>	D
Volatile organic compounds (VOC)	0.017 <sup>aj</sup>	D
Nitrous Oxide (N <sub>2</sub> O)	0.013 <sup>ak</sup>	D
Carbon Dioxide (CO <sub>2</sub> )	195 <sup>al</sup>	A

<sup>a</sup> Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV \* 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. To convert lb/MMBtu to kg/J, multiply by 4.3E-10. These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

<sup>b</sup> Factors are for boilers with no controls or with particulate matter controls.

<sup>c</sup> References 26, 34, 36, 59, 60, 65, 71-73, 75.

<sup>d</sup> References 26, 33, 34, 36, 59, 60, 65, 71-73, 75.

<sup>e</sup> References, 26, 35, 36, 46, 50, 59, 60, 65, 71-75.

<sup>f</sup> Reference 26.

<sup>g</sup> Reference 33.

<sup>h</sup> Reference 26, 50, 83.

<sup>i</sup> References 26, 34, 36, 59, 60, 65, 71-73, 75.

<sup>j</sup> References 26, 50.

<sup>k</sup> References 26, 35, 36, 46, 59, 60, 65, 70, 71-75.

<sup>l</sup> References 26, 36, 59, 60, 65, 70-75.

<sup>m</sup> References 26, 33, 36, 59, 60, 65, 70-73, 75.

<sup>n</sup> References 26, 33, 36, 59, 60, 65, 71-73, 75.

<sup>o</sup> Reference 34.

<sup>p</sup> References 26, 36, 60, 65, 71-75.

<sup>q</sup> References 26, 33.

<sup>r</sup> References 26.

<sup>s</sup> Reference 83.

<sup>t</sup> References 26, 72.

<sup>u</sup> References 35, 60, 65, 71, 72.

<sup>v</sup> References 26, 72.

<sup>w</sup> References 35, 60, 65, 71, 72.

<sup>x</sup> References 26, 33, 34, 59, 60, 65, 71-75.

<sup>y</sup> References 26, 28, 35, 36, 46 - 51, 59, 60, 65, 70, 71-75, 79, 81, 82.

<sup>z</sup> Reference 50.

<sup>aa</sup> Reference 26, 45.

<sup>ab</sup> References 26, 33, 34, 36, 59, 60, 65, 71-75, 83.

<sup>ac</sup> References 26, 35, 60, 65, 71, 72.

<sup>ad</sup> References 26, 33, 34, 36, 59, 60, 65, 71 - 73.

<sup>ae</sup> References 26, 33, 34, 35, 60, 65, 70, 71, 72.

<sup>af</sup> References 26, 33, 34, 36, 59, 60, 65, 71 - 73, 83.

<sup>ag</sup> References 26, 45.

<sup>ah</sup> References 26, 35, 60, 65, 71.

<sup>ai</sup> TOC = total organic compounds. Factor is the sum of all factors in table except nitrous oxide and carbon dioxide.

<sup>aj</sup> VOC volatile organic compounds. Factor is the sum of all factors in table except hydrogen chloride, chlorine, formaldehyde, tetrachloroethene, 1,1,1-trichloroethane, dichloromethane, acetone, nitrous oxide, methane, and carbon dioxide.

<sup>ak</sup> Reference 83.

<sup>al</sup> References 19 - 26, 33 - 49, 51 - 57, 77, 79 - 82, 84 - 86.

Table 1.6-4 EMISSION FACTORS FOR TRACE ELEMENTS FROM WOOD RESIDUE COMBUSTION<sup>a</sup>

Trace Element	Average Emission Factor (lb/MMBtu) <sup>b</sup>	EMISSION FACTOR RATING
Antimony	7.9 E-06 <sup>c</sup>	C
Arsenic	2.2 E-05 <sup>d</sup>	A
Barium	1.7 E-04 <sup>e</sup>	C
Beryllium	1.1 E-06 <sup>f</sup>	B
Cadmium	4.1 E-06 <sup>g</sup>	A
Chromium, total	2.1 E-05 <sup>h</sup>	A
Chromium, hexavalent	3.5 E-06 <sup>i</sup>	C
Cobalt	6.5 E-06 <sup>j</sup>	C
Copper	4.9 E-05 <sup>k</sup>	A
Iron	9.9 E-04 <sup>l</sup>	C
Lead	4.8 E-05 <sup>m</sup>	A
Manganese	1.6 E-03 <sup>n</sup>	A
Mercury	3.5 E-06 <sup>o</sup>	A
Molybdenum	2.1 E-06 <sup>p</sup>	D
Nickel	3.3 E-05 <sup>q</sup>	A
Phosphorus	2.7 E-05 <sup>r</sup>	D
Potassium	3.9 E-02 <sup>s</sup>	D
Selenium	2.8 E-06 <sup>t</sup>	A
Silver	1.7 E-03 <sup>u</sup>	D
Sodium	3.6 E-04 <sup>v</sup>	D
Strontium	1.0 E-05 <sup>w</sup>	D
Tin	2.3 E-05 <sup>x</sup>	D
Titanium	2.0 E-05 <sup>y</sup>	D
Vanadium	9.8 E-07 <sup>z</sup>	D
Yttrium	3.0 E-07 <sup>aa</sup>	D
Zinc	4.2 E-04 <sup>ab</sup>	A

<sup>a</sup> Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV \* 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. To convert lb/MMBtu to kg/J, multiply by 4.3E-10. These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

<sup>b</sup> Factors are for boilers with no controls or with particulate matter controls.

<sup>c</sup> Reference 26.

<sup>d</sup> References 26, 33, 36, 46, 59, 60, 65, 71-73, 75, 81.

<sup>e</sup> References 26, 35, 36, 46, 59, 60, 65, 71-73, 75.

<sup>f</sup> References 26, 35, 36, 42, 46, 59, 60, 65, 71-73, 75, 81.

<sup>g</sup> References 26, 34, 35, 36, 42, 59, 60, 65, 71-73, 75, 81.

<sup>h</sup> References 26, 36, 46, 59, 60, 71, 72, 73, 75.

<sup>i</sup> References 26, 34, 83.

<sup>j</sup> References 26, 33-36, 46, 59, 60, 65, 71-73, 75, 81.

<sup>k</sup> References 26, 71, 72, 81.

<sup>l</sup> References 26, 33-36, 46, 59, 60, 65, 71-73, 75.

<sup>m</sup> References 26, 35, 36, 46, 59, 60, 65, 71-73, 75, 81.

<sup>n</sup> References 26, 33 - 36, 46, 59, 60, 65, 71-73, 75, 81.

<sup>o</sup> References 26, 33, 35, 46, 59, 60, 65, 71-73, 75, 81.

<sup>p</sup> Reference 34.

Table 1.6-5. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE-SPECIFIC EMISSION FACTORS FOR WOOD/BARK-FIRED BOILERS\*

EMISSION FACTOR RATING: E

Particle Size <sup>b</sup> (µm)	Cumulative Mass % ± Stated Size				
	Uncontrolled <sup>c</sup>	Multiple Cyclone <sup>d</sup>	Multiple Cyclone <sup>e</sup>	Scrubber <sup>f</sup>	Day Electrostatic Granular Filter (DEGF)
15	94	96	35	98	77
10	90	91	32	98	74
6	86	80	27	98	69
2.5	76	54	16	98	65
1.25	69	30	8	96	61
1.00	67	24	6	95	58
0.625	ND	16	3	ND	51
Total	100	100	100	100	100

\* Reference 89.

<sup>b</sup> Expressed as aerodynamic equivalent diameter.

<sup>c</sup> From data on underfeed stokers. May also be used as size distribution for wood-fired boilers.

<sup>d</sup> From data on spreader stokers with flyash reinjection.

<sup>e</sup> From data on spreader stokers without flyash reinjection.

<sup>f</sup> From data on Dutch ovens. Assumed control efficiency is 94%.

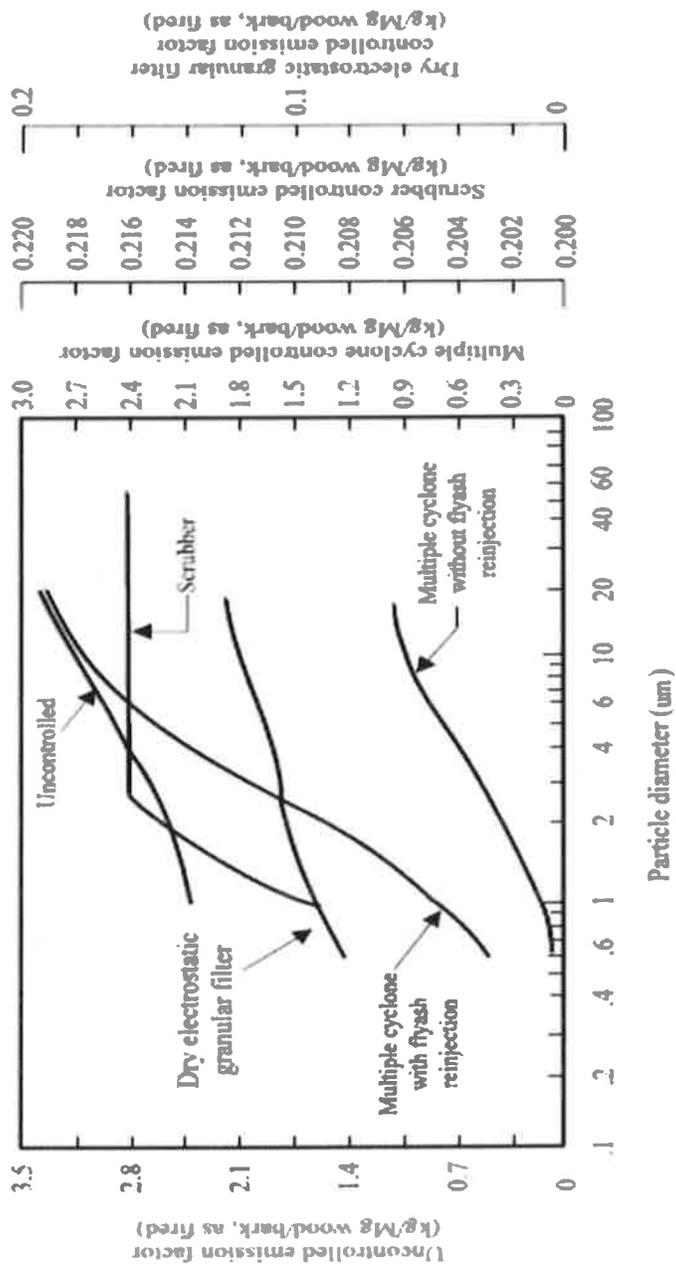


Figure 1.6-1. Cumulative size-specific particulate matter emission factors for wood/bark-fired boilers.

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**ATTACHMENT 3**

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**AP-42 UPDATED FIFTH EDITION EMISSION FACTORS for  
NATURAL GAS COMBUSTION**

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Table 1.4-1. Emission Factors for Nitrogen Oxides (NO<sub>x</sub>) and Carbon Monoxide (CO) from Natural Gas Combustion<sup>a</sup>

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO <sub>x</sub> <sup>b</sup>		CO	
	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS) <sup>c</sup>	280	A	84	B
Uncontrolled (Post-NSPS) <sup>c</sup>	190	A	84	B
Controlled - Low NO <sub>x</sub> burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO <sub>x</sub> burners	50	D	84	B
Controlled - Low NO <sub>x</sub> burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

<sup>a</sup> Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from lb/10<sup>6</sup> scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

<sup>b</sup> Expressed as NO<sub>x</sub>. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO<sub>x</sub> emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO<sub>x</sub> emission factor.

<sup>c</sup> NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion<sup>a</sup>

Pollutant	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
CO <sub>2</sub> <sup>b</sup>	120,000	A
Lead	0.0005	D
N <sub>2</sub> O (Uncontrolled)	2.2	E
N <sub>2</sub> O (Controlled-low-NO <sub>x</sub> burner)	0.64	E
PM (Total) <sup>c</sup>	7.6	D
PM (Condensable) <sup>c</sup>	5.7	D
PM (Filterable) <sup>c</sup>	1.9	B
SO <sub>2</sub> <sup>d</sup>	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

<sup>a</sup> Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

<sup>b</sup> Based on approximately 100% conversion of fuel carbon to CO<sub>2</sub>. CO<sub>2</sub>[lb/10<sup>6</sup> scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO<sub>2</sub>, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10<sup>4</sup> lb/10<sup>6</sup> scf.

<sup>c</sup> All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM<sub>10</sub>, PM<sub>2.5</sub> or PM<sub>1</sub> emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

<sup>d</sup> Based on 100% conversion of fuel sulfur to SO<sub>2</sub>.

Assumes sulfur content is natural gas of 2,000 grains/10<sup>6</sup> scf. The SO<sub>2</sub> emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO<sub>2</sub> emission factor by the ratio of the site-specific sulfur content (grains/10<sup>6</sup> scf) to 2,000 grains/10<sup>6</sup> scf.

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION<sup>a</sup>

CAS No.	Pollutant	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
91-57-6	2-Methylnaphthalene <sup>b,c</sup>	2.4E-05	D
56-49-5	3-Methylchloranthrene <sup>b,c</sup>	<1.8E-06	E
	7,12-Dimethylbenz(a)anthracene <sup>b,c</sup>	<1.6E-05	E
83-32-9	Acenaphthene <sup>b,c</sup>	<1.8E-06	E
203-96-8	Acenaphthylene <sup>b,c</sup>	<1.8E-06	E
120-12-7	Anthracene <sup>b,c</sup>	<2.4E-06	E
56-55-3	Benz(a)anthracene <sup>b,c</sup>	<1.8E-06	E
71-43-2	Benzene <sup>b</sup>	2.1E-03	B
50-32-8	Benzo(a)pyrene <sup>b,c</sup>	<1.2E-06	E
205-99-2	Benzo(b)fluoranthene <sup>b,c</sup>	<1.8E-06	E
191-24-2	Benzo(g,h,i)perylene <sup>b,c</sup>	<1.2E-06	E
205-82-3	Benzo(k)fluoranthene <sup>b,c</sup>	<1.8E-06	E
106-97-8	Butane	2.1E+00	E
218-01-9	Chrysene <sup>b,c</sup>	<1.8E-06	E
53-70-3	Dibenzo(a,h)anthracene <sup>b,c</sup>	<1.2E-06	E
25321-22-6	Dichlorobenzene <sup>b</sup>	1.2E-03	E
74-84-0	Ethane	3.1E+00	E
206-44-0	Fluoranthene <sup>b,c</sup>	3.0E-06	E
86-73-7	Fluorene <sup>b,c</sup>	2.8E-06	E
50-00-0	Formaldehyde <sup>b</sup>	7.5E-02	B
110-54-3	Hexane <sup>b</sup>	1.8E+00	E
193-39-5	Indeno(1,2,3-cd)pyrene <sup>b,c</sup>	<1.8E-06	E
91-20-3	Naphthalene <sup>b</sup>	6.1E-04	E
109-66-0	Pentane	2.6E+00	E
85-01-8	Phenanathrene <sup>b,c</sup>	1.7E-05	D
74-98-6	Propane	1.6E+00	E
129-00-0	Pyrene <sup>b,c</sup>	5.0E-06	E
108-88-3	Toluene <sup>b</sup>	3.4E-03	C

<sup>a</sup> Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> scf to lb/MMBtu, divide by 1,020. Emission Factors preceded with a less-than symbol are based on method detection limits.

<sup>b</sup> Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

<sup>c</sup> HAP because it is Polycyclic Organic Matter (POM). POM is a HAP as defined by Section 112(b) of the Clean Air Act.

<sup>d</sup> The sum of individual organic compounds may exceed the VOC and TOC emission factors due to differences in test methods and the availability of test data for each pollutant.

TABLE 1.4-4. EMISSION FACTORS FOR METALS FROM NATURAL GAS COMBUSTION<sup>a</sup>

CAS No.	Pollutant	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
7440-38-2	Arsenic <sup>b</sup>	2.0E-04	E
7440-39-3	Barium	4.4E-03	D
7440-41-7	Beryllium <sup>b</sup>	<1.2E-05	E
7440-43-9	Cadmium <sup>b</sup>	1.1E-03	D
7440-47-3	Chromium <sup>b</sup>	1.4E-03	D
7440-48-4	Cobalt <sup>b</sup>	8.4E-05	D
7440-50-8	Copper	8.5E-04	C
7439-96-5	Manganese <sup>b</sup>	3.8E-04	D
7439-97-6	Mercury <sup>b</sup>	2.6E-04	D
7439-98-7	Molybdenum	1.1E-03	D
7440-02-0	Nickel <sup>b</sup>	2.1E-03	C
7782-49-2	Selenium <sup>b</sup>	<2.4E-05	E
7440-62-2	Vanadium	2.3E-03	D
7440-66-6	Zinc	2.9E-02	E

<sup>a</sup> Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. Emission factors preceded by a less-than symbol are based on method detection limits. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> scf to lb/MMBtu, divide by 1,020.

<sup>b</sup> Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.

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